Prepared for
Remediation (DPFASR), Environment and Engineering (EE) Branch
ABN: 68706814312

AECOM

Ongoing Monitoring Report 2023

PFAS OMP - RAAF Base Edinburgh

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Ongoing Monitoring Report 2023

PFAS OMP - RAAF Base Edinburgh

Client: Remediation (DPFASR), Environment and Engineering (EE) Branch

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Executive Summary

Background

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to carry out the Per- and Poly-Fluoroalkyl Substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019)[1] at the Royal Australian Air Force (RAAF) Base Edinburgh (the Base), located in South Australia (SA).

The OMP outlines the rationale and scope for the monitoring of the concentrations and extent of PFAS in groundwater and surface water originating from the Base. The monitoring program consists of biannual monitoring events in January/February (dry season) and July (wet season). Sampling under these different climatic conditions provides a better understanding of the movement and concentrations of PFAS in the environment.

The OMP was undertaken within the RAAF Base Edinburgh Management Area, as shown in **A1.1** of **Appendix A**. The Management Area covers the entire Base (groundwater and surface water) and selected off-Base areas, including Kaurna Park Wetland and the Helps Road Drain network (groundwater and surface water).

Within the Management Area there were 12 locations identified as PFAS Source Areas that represent a significant source of PFAS contamination. As listed in Site settings in the main report body.

Objectives

The overarching objective of implementing the OMP is to provide information on changes in the location and concentrations of PFAS on-Base and off-Base within the Management Area. The data is used to assist risk management decisions by Defence to protect human health and the environment, and to inform the understanding of the effectiveness of remedial actions.

Monitoring program

AECOM completed periodic monitoring of groundwater and surface water between January and October 2023 in accordance with the sampling and analysis plan Sampling and Analysis Quality Plan (SAQP) developed by AECOM (2022b, 2022c). The monitoring targeted PFAS and included selected locations on-Base and in surrounding off-Base areas.

Interpretive analysis

Data collected during the monitoring period (January 2023 to October 2023) were compared to historical data for the included sampling locations.

PFAS concentrations within on-Base and off-Base groundwater were within the same order of magnitude of historic results and within the identified groundwater plume (JBS&G 2018) with the exception of an off Base down gradient fourth quaternary aquifer well which reported an order of magnitude increase from historical concentrations for PFOS+PFHxS and PFOA. As the well exhibiting this increase lies within the groundwater prohibition area there is no change to the overall risk profile. Historical monitoring data can be found in the Detailed Site Investigation (DSI) (JBS&G, 2018) and the 2022 Annual Interpretive Report (AECOM, 2024a).

What is an 'order of magnitude'?

This refers to a number 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.

[1] Available at defence.gov.au/environment/pfas/Edinburgh

Statistical analysis of the monitoring results for on-Base groundwater locations suggests PFAS concentrations at the majority of locations were stable or decreasing. Increasing trends at a number of wells, predominantly at or downgradient of Source Areas may be associated with groundwater level fluctuations in some areas or plume migration. Soil remediation has been completed on the base and this will in time reduce the amount of PFAS movement to groundwater from source areas. It is noted that groundwater remediation works are also in progress.

PFAS concentrations in surface water at locations on-Base and off-Base were consistent with historical results and remain within an order of magnitude of historical maximums.

Groundwater results

Groundwater gauging data indicated that groundwater flows broadly to the south-west across the Monitoring Area, consistent with historical data. Groundwater elevations appeared to show minor difference between seasons at most monitoring locations (higher in wet season, lower in dry season); however, have remained stable over time.

Overall, the groundwater monitoring results do not suggest a change in the understanding of the nature and extent of PFAS contamination. The relative stability in the concentrations during the monitoring period within each of the sub-management areas suggests the plume size, particularly the lateral dimension (i.e. width) is unchanged.

The following was observed:

- The highest concentrations of PFAS in groundwater within the monitoring network are associated with PFAS Source Areas on-Base (specifically Source Area P11: current fire station and former AFFF concentrate storage area) and this is consistent with the identified PFAS plume (Defence, 2019).
- No new exceedances of the PFAS National Environmental Management Plan (NEMP) 2.0 (HEPA, 2020) Human Health Drinking Water guideline for PFOS+PFHxS were detected at any on-Base or off-Base wells. A new exceedance of PFHxS alone was reported for one well at which the sum of PFOS+PFHxS had previously exceeded the drinking water guidelines.
- PFAS concentrations at selected on-Base locations near Source Areas were reported to be potentially increasing, suggesting that PFAS may be continuing to mobilise to groundwater at some source locations.
- PFAS concentrations at off-Base locations were consistent with historical results with the following exception, an order-of-magnitude increase in concentrations of PFOS+PFHxS and PFOA was observed at MW4075 (Q4) for the 2023 monitoring events in comparison to historical data. MW4075 is one of a set of off-Base nested wells targeting each of the quaternary aquifers at the Helps Road Drain; the increased concentrations warrant ongoing observation.

Surface water results

Reported PFAS concentrations for on-Base and off-Base surface water locations were consistent with the historical results and were below the recreational water guideline for both 2023 monitoring rounds.

CSM and risk profile

The conceptual site model (CSM) was reviewed in light of the monitoring data collected during the current monitoring period between January 2023 and October 2023, and no changes were identified to sources, pathways or receptors at the Base or within the Management Area to change the risk profile, as described in the 2019 PMAP.

The 2023 data does not suggest broad changes, with the various increasing and decreasing trends noted in on and off-Base groundwater wells not considered to be materially significant in terms of the risk profile. The new exceedance of drinking water guidelines for PFHxS in the on-Base monitoring well does not constitute a change the risk profile for on-Base human health receptors noting that drinking water guidelines had historically been exceeded for sum of PFOS+PFHxS at this location; further, the well is not located within the vicinity of any drinking water sources as groundwater extraction is known not to occur on the Base. The exceedance of drinking water guidelines in the off-Base monitoring wells also does not constitute a change to the risk profile for receptors in the vicinity of this well due to the

establishment of a Stage 1 and 2 Groundwater Prohibition Area (GPA) as of February 2022 and 2023 respectively, preventing extraction of groundwater in the Q1 to Q4 aquifers.

Given an off-Base Q4 aquifer monitoring well reported an order of magnitude increase during the 2023 reporting, and this well is approximately 500 m from the corresponding GPA boundary, both the downgradient extent of impacts in the Q4 aquifer and the potential for impact to the underlying tertiary (T1) aquifer warrant further consideration. It should be noted that currently all T1 monitoring locations remain below the laboratory LOR for all PFAS analytes. It is understood that the primary use of the T1 aquifer is for irrigation rather than potable supply.

Conclusions

The monitoring conducted over the period covered within this report is considered to have met the objectives of the SAQP and the overall OMP. The monitoring network is considered appropriate and sufficient for the program objectives. The PFAS plume remains generally stable with some wells on-Base reported increasing trends mostly within proximity of Source Areas. Increased concentrations in an off-Base Q4 well warrant ongoing observation and further consideration of potential impact to the tertiary aquifer.

Abbreviations and acronyms

Abbreviation	Term
AECOM	AECOM Australia Pty Ltd
AFFF	aqueous film forming foam
ALS	ALS Environmental
BOM	Bureau of Meteorology
CSM	conceptual site model
Defence	Department of Defence
DO	dissolved oxygen
DSI	Detailed Site Investigation
EC	electrical conductivity
EPA	Environment Protection Agency
FSANZ	Food Standards Australia New Zealand
GAC	granulated activated carbon
GPA	Groundwater Prohibition Area
HEPA	Heads of Environment Protection Authority
LOR	limit of reporting
MW	monitoring well
NEMP	National environmental management plan
NATA	National Association of Testing Authorities
NMI	National Measurement Institute
OMP	Ongoing Monitoring Plan
ORP	oxidation reduction potential
PFAS	per- and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PFHxS	perfluorohexane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	quality assurance and quality control
Q1	first Quaternary aquifer
Q2	second Quaternary aquifer
Q3	third Quaternary aquifer
Q4	fourth Quaternary aquifer
RAAF	Royal Australian Air Force
RAP	Remediation Action Plan
SA	South Australia
SAQP	Sampling and Analysis Quality Plan

Abbreviation	Term
SW	surface water
SWL	standing water level
T1	first Tertiary aquifer
WTP	Water treatment plant

List of units

Unit	Definition
AHD	Australian Height Datum
cm	centimetre
°C	degrees Celsius
g	grams
km	Kilometre
L	Litre
m	metre
mbgl	metres below ground level
mAHD	metres Australian Height Datum
mbtoc	metres below top of casing
mg	milligrams
µg	micrograms
µS	microsiemens
mm	millimetres
cm	centimetre
mV	millivolts

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the Ongoing Monitoring Plan (OMP) for monitoring of per- and polyfluoroalkyl substances (PFAS) at the Royal Australian Air Force (RAAF) Base Edinburgh (the Base), South Australia (SA) (**Figure A1.1** in **Appendix A**)

The monitoring targeted PFAS and included selected locations on-Base and in surrounding off-Base areas, including the RAAF Edinburgh Management Area (**Figure A1.1** in **Appendix A**) which includes the Groundwater and Surface Water Management Areas (herein referred to as the Management Area) as identified in the PFAS Management Area Plan (PMAP).

In order to meet the objectives of the OMP, the monitoring was undertaken in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2022a). Note that the SAQP is reviewed prior to each monitoring event.

This report has been prepared in accordance with the Defence *PFAS OMP Annual Interpretive Report Guidance Version 4.0* (Defence, 2022) and summarises monitoring data collected between January and October 2023 (hereafter known as the monitoring period). It is acknowledged that additional programs of work being delivered by Defence outside of this current monitoring period were also used to further refine the understanding of the Conceptual Site Model (CSM) for the Base and Management Area. A summary of these ancillary works is presented in **Section 6.0**.

1.1 Purpose and objectives

The objective of the monitoring program set out in the OMP (Defence, 2019) 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 an identified potentially elevated risk to a receptor, or potential future risk to a receptor.

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

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

The monitoring data will be evaluated to assess environmental variability and trends in PFAS concentrations and changes to the known risk profile, and to inform recommendations to review the OMP and PMAP (Defence, 2019), if warranted.

1.2 Scope

The scope of works for this interpretive report included assessing changes to the nature and extent of PFAS taking into account data obtained during the monitoring period in addition to that available from interim monitoring and historical OMP investigations, and evaluating if these changes have implications for the understanding of the CSM and the risk profile with respect to PFAS impacts on and off the Base. This assessment included the evaluation of data reported in the following factual reports, as well as other data provided by Defence and ancillary external data sources:

- RAAF Base Edinburgh – Sampling Event Factual Report – January and February 2023 (AECOM, 2023a).
- RAAF Base Edinburgh – Sampling Event Factual Report – July 2023 (AECOM, 2023b).
- Ancillary external data sources including meteorological data (see **Section 6.4**)

2.0 Site setting

2.1 Site description

The Base identification and setting are summarised in **Table 1** below:

Table 1 Site Description

Element	Description
Site ID	RAAF Base Edinburgh, property number 0939
Location	RAAF Base Edinburgh is located approximately 25 kilometres (km) north of the Adelaide central business district between Salisbury North to the south, Elizabeth to the east, Edinburgh North and Eyre to the north, and Virginia to the west (**Figure A1.1** in **Appendix A)**. The Base encompasses an area of approximately 1,340 hectares bounded by residential areas to the south, the Defence Science Technology facility and commercial and residential areas to the east, residential and agricultural land to the north, and primarily agricultural land to the west. The Base is an operational military airfield. The Base has administrative, accommodation, recreational and operational support facilities as well as technical workshops, aircraft hardstands and aircraft pavements.
Regional climate	The annual climate of the surrounding Adelaide region is characterised by a generally dry and hot summer season between December and March and a mild winter season with moderate rainfall between May and August. Edinburgh has an annual average rainfall of 429.2 millimetres (mm) (BOM, 2022).
Topography, geology and hydrogeology	The Base is generally flat and low-lying with some minor undulations. Elevations range between 11 and 29 metres Australian Height Datum (mAHD), with the topography sloping broadly to the west to south-west. The hydrogeologic units underlying the Base include the following lithologies: • Quaternary units (Q1, Q2, and Q3): The Pooraka Formation, a sandy clay and clayey to sandy silt with interbeds and layers of clay, sand, gravel, pebbles, cobbles and boulders that generally extends to a depth of approximately 6 m to 8 m, generally overlying the Hindmarsh Clay, a fluviatile and alluvial clay and silt unit with interbedded sands and gravels in outwash areas that extends to a maximum depth of approximately 100 m. Comprised of up to three semi-confined aquifers. • Quaternary unit (Q4): Carisbrooke Sand; Fluviatile, alluvial fine sands and silts with some clay and thin gravel beds in outwash areas and is the deepest Quaternary unit. This unit is a confined aquifer with possible hydraulic connection with the T1 aquifer in some areas. • Tertiary units (T1): Hallett Cove Sandstone, Dry Creek Sand and Croydon Facies – limestone, calcareous sandstone and sand of marine deposition and usually abundantly fossiliferous; and the underlying Port Willunga Formation (upper) a fossiliferous sandy limestone with sands and sandstones. This unit is a confined aquifer. The Quaternary aquifers are complex due to the Interconnection of individual lenses and layers of gravels, sands, clays, and silts. This presents a complex 3-dimensional groundwater flow regime where the mechanisms of contaminant transport are likely to be defined by preferential flow paths through more permeable materials and retardation of contaminant migration through less permeable materials (JBS&G, 2019b).

Element	Description
	Water level monitoring previously performed by JBS&G confirms there is a degree of vertical leakage through the quaternary aquifers to the T1 aquifer (JBS&G, 2023). A clear seasonal trend in water levels is measured with decreased and somewhat variable levels in summer and higher stable levels during winter. Given the observed levels and considering precipitation trends it is apparent that the seasonal trends are largely the results of irrigation pumping from the tertiary (primarily T1) aquifers (JBS&G, 2023). The water resource capacity report by Department for Environment and Water (DEWNR, 2017) outlines the heterogeneity of the Quaternary Hindmarsh Clay confining layer indicating that the confining layer is thin or absent in areas across the Adelaide plains including around Waterloo Corner.
Groundwater flow	Groundwater broadly flows from the northeast to the southwest.
Surface water	The surface water drainage system on RAAF Base Edinburgh includes lined and unlined stormwater drainage channels. The major drainage network includes the major unlined open drain, the Helps Road Drain. Surface water flow overall is to the southwest.
Current and previous land use	The Base was compulsorily acquired in 1940 to build a munitions factory; prior to this the land was used for agricultural purposes. The construction of the RAAF Base commenced in 1953. The Base is bounded in all directions by Heaslip Road, Womma Road, West Avenue and Edinburgh Road. Current surrounding land uses detailed in the PMAP are summarised as: • North: Childcare facility located within 200 m of the Base. Industrial, agricultural and recreational land uses. Low-density residential to the northeast. • East: Industrial, residential and commercial properties including Defence Science and Technology Group to the southeast. • South: Agricultural (primary production), industrial, commercial and residential properties with some designated open spaces (e.g. Kaurna Park Wetland) • West: Agricultural (Primary Production) and industrial (Urban Employment) land uses are located to the west of the Base, with some low-density residential land use.

2.2 Management Area

The location of the Base and the Management Area as defined by the PMAP (Defence, 2019) is shown in **Figure A1.1** (**Appendix A**). The Management Area covers all of the Base (groundwater and surface water) and a limited area off-Base, which includes groundwater and surface water at the Kaurna Park Wetland and the Helps Road Drain network.

2.3 Groundwater Prohibition Area

A Groundwater Prohibition Area (GPA) was established by the environmental protection agency (EPA) on 3 February 2022, which includes RAAF Base Edinburgh and areas south to Port Wakefield Road. A second stage was added to the GPA extending the area from Port Wakefield Road to Barker Inlet on 23 February 2023. The GPA is shown in **Figure A1.2** (**Appendix A**). The purpose of the GPA is to protect current and future landowners from accessing contaminated groundwater via private property bores.

2.4 Source Areas

The PMAP (Defence, 2019) identified 12 locations as PFAS Source Areas that represent a significant source of PFAS contamination; these areas are listed below in **Table 2** and shown in **Figure A1.3** (**Appendix A**):

Table 2 Summary of on-Base PFAS Source Areas

PFAS Source Area	Historic contaminating activity
P1	AFFF wastewater retention tank and AFFF wastewater evaporation pond. PFAS presence in sediment, soil, concrete and groundwater.
P2	The Base's bulk fuel storage facility including an automated AFFF deluge system. PFAS presence in soil and groundwater.
P3A & P3B	AFFF wastewater retention infrastructure, the Chesterfield Stumps, at the eastern and western end of the aircraft hangars. PFAS presence in groundwater.
P4	Former fire training area and sub-surface waste dump in the northern portion of the airside operations area. PFAS presence in soil and groundwater.
P8	Sub-surface waste dump at the central portion of the western Base boundary. PFAS presence in groundwater.
P9	Current fire training area, including smokeroom training building (Building 618) located in the southern portion of the airside operations area, near the Ordnance Unloading Area. PFAS presence in soil, concrete and groundwater.
P10	Former sewage treatment plant and fire training area in the southern portion of the airside operations area and adjacent to the Helps Road Drain discharge point. PFAS presence in soil and groundwater.
P11	Current fire station and former AFFF concentrate storage area. PFAS presence in soil, concrete and groundwater.
P15A & P15B	Former fire training area in the Ordinance Unloading Area. PFAS presence in soil and groundwater.
P16	Former fire training area around the Engine Run-up facility. PFAS presence in soil and groundwater.
P23	Location of a historical train and semi-trailer crash at the corner of the western and south-western boundaries. PFAS presence in groundwater.
P27	Suspected former fire training area. PFAS presence in soil and groundwater.

3.0 Sampling and analytical scope and methodology

3.1 Sampling and analysis methodology

The SAQP (AECOM, 2022a) (included in **Appendix B**) provides the sampling schedule, rationale, and methodologies. The SAQP prescribes:

- Biannual on-Base and off-Base groundwater sampling, undertaken during the dry season (January/February 2023) and during the wet season (July 2023)
- Surface water sampling (on-Base and off-Base), undertaken during the dry season (January/February 2023) and during the wet season (July 2023).

Details of the completed scope are provided in **Section 3.2**.

3.2 Summary of OMP works 2023

A summary of the monitoring works implemented in accordance with the SAQP (AECOM, 2022a), **Appendix B,** between January and October 2023 is presented below; deviations from the SAQP are detailed in **Section 3.3** and changes to the monitoring network are summarised in **Section 3.4.**

Monitoring works were undertaken between January and October 2023 and comprised:

- Gauging and sampling of groundwater at 105 monitoring wells in January/February 2023 and 105 in July 2023, noting three wells in each monitoring round were sampled directly via a tap and were not gauged. Two groundwater wells gauged and sampled during and ad hoc event in October 2023.
- Gauging of 18 additional monitoring wells, which were not sampled, in January/February and July 2023
- Sampling of surface water at 16 locations in January/February 2023 and 18 locations in July 2023
- Analysis of all samples for the extended PFAS suite.

3.3 Deviations from the SAQP

Deviations from the SAQP in field monitoring events completed between January and October 2023 are summarised below in **Table 3** and presented in full in the factual reports (AECOM, 2023a, AECOM, 2023b).

Table 3 Deviations from scope of works

Monitoring rounds	Media	Deviation	Impact on data set and interpretations in the OMP
January and February 2023	Groundwater	The following wells representing the off-Base Q3 and Q4 aquifer were not gauged within a 24-hour period due to delays in council approvals for access to off-Base wells; • MW4068 (Q3) • MW4069 (Q3) • MW4070 (Q3) • MW4071 (Q3) • MW4073 (Q3) • MW4074 (Q3) • MW4075 (Q4) • MW4078 (Q4) • MW4079 (Q4)	No material impact on interpretation of groundwater flow given impact on measured levels would be minor and taking into account the large distance between wells.
	Surface water	All surface water sampling locations were accessible or able to be sampled with the exception of the following:	Although the absence of data from these surface water locations does limit

Monitoring rounds	Media	Deviation	Impact on data set and interpretations in the OMP
		• SW011, SW019, SW033, SW037 were not sampled due to insufficient water available for sampling.	the assessment of surface water pathways for PFAS migrating from the Base, the impact on the assessment is not material given in each case, down-gradient locations were sampled.
July and October 2023	Groundwater	Of the 105 proposed groundwater wells, four locations were not accessible for sampling during July and were instead sampled during an ad hoc sampling event in October 2023. The following was observed during the July sampling event: • Wells MW4027 and MW4076 were observed to be flooded in the area above the Gatic cover and unable to be sampled at the time. • MW2411 was observed to be buried approximately 0.5 metres below ground level (m bgl) due to being covered during excavations in P4. The well was unable to be recovered by field staff at the time. This well was later reinstated and sampled in October 2023. • MW2116 was observed to be buried by gravel during surfacing works and was unable to be recovered. This well was later reinstated and sampled in October 2023.	Wells were accessed several months after the wet season sampling event, which may result in these results exhibiting a different degree of seasonal variation in PFAS concentrations from the remaining wells.
	Surface water	Of the 21 proposed surface water locations, three locations (SW019, SW021 and SW033) were not sampled due to insufficient water available for sampling.	Although the absence of data from these surface water locations does limit the assessment of surface water pathways for PFAS migrating from the Base, the impact on the assessment is not material given in each case, down-gradient locations were sampled.

3.4 Changes to the monitoring network

Observations detailed in the factual reports (AECOM, 2023a, AECOM, 2023b) indicate that the monitoring well network was generally in good condition with the exception of the following observations:

- Monitoring well MW2411 was observed during the July 2023 sampling event to be buried approximately 0.5m below ground level due to being covered during excavations in P4. The well was later uncovered and a standpipe was erected allowing access to the well.

- Monitoring well MW2116 was observed during the July 2023 sampling event to be covered by gravel during resurfacing at P11. The well was later uncovered allowing access to the well.

It is noted that both of these monitoring wells were reinstated and extended following these observations made in July 2023.

4.0 Quality assurance and quality control

Data validation pertaining to the data in this report has been completed and discussed within the factual reports provided in **Appendix C** and listed below.

- RAAF Base Edinburgh – Sampling Event Factual Report – January/February 2023 (AECOM, 2023a).
- RAAF Base Edinburgh – Sampling Event Factual Report – July/October 2023 (AECOM, 2023b).

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

AECOM considers the data obtained during the current monitoring period, along with the historical data assessed, to be representative of the conditions at the time of monitoring and to be suitable for the temporal assessment of the data at the Base.

5.0 Assessment criteria

The adopted screening criteria are derived from the PFAS National Environmental Management Plan 2.0 (NEMP 2.0) (HEPA, 2020), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. At the time of preparing this report, the primary guidance document utilised is the *PFAS National Environmental Management Plan (version 2.0)* (NEMP) (HEPA, 2020).

The adopted PFAS screening criteria to assess the data collected as part of the monitoring are presented in **Table 4** and **Table 5** below.

These screening criteria included values for the following analytes:

- perfluorooctane sulfonate (PFOS)
- PFOS+ perfluorohexane sulfonate (PFHxS)
- perfluorooctanoic acid (PFOA).

Table 4 PFAS criteria summary–- health

Pathway	Compound	Criteria	Comment / Reference
Drinking water–- groundwater	PFOS+PFHxS	0.07 µg/L	These values are from the PFAS NEMP 2.0 (HEPA, 2020). *All groundwater results were compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS+PFHxS	2 µg/L	The values presented in the PFAS NEMP 2.0 (HEPA, 2020) are from the Guidance on PFAS in Recreational Water (NHMRC, 2019) guidance on the assessment of PFAS in recreational water released in August 2019. *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	

Table 5 PFAS criteria summary–- ecological

Pathway	Compound	Criteria	Comment / Reference
Freshwater (95% species protection values) – surface water	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020). The 95% level of protection has been applied for slightly to moderately disturbed ecosystems. *All surface water results have been compared to these criteria.*
	PFOA	220 µg/L	

6.0 Contextual and ancillary information

Data collected as part of the OMP has been augmented with other available data to enhance interpretation of groundwater trends, as discussed below, along with details of events occurring within the Management Area and other factors with the potential to have affected monitoring results over the period of reporting.

6.1 Additional analytical data

Groundwater monitoring has been conducted on-Base and surrounding areas in association with the on-going PFAS characterisation and operational monitoring. Past projects include:

- Detailed site investigation (DSI) (PFAS) (JBS&G, 2019a).

Data from these investigations are included in **Appendix D**. Unpublished data collected for other purposes across the Base is not included for presentation in this report.

6.2 Remediation projects

Remediation projects at the Base include the Ventia PFAS soil treatment project, which commenced in 2018 and the Enviropacific Services Pty Ltd (Enviropacific) groundwater treatment plant for the removal of PFAS in extracted groundwater, which has been operating since mid-August 2019. Soil and groundwater Remediation Action Plans (RAP) targeting the major PFAS Source Areas at the Base were finalised in August 2021 and have been endorsed by the Site Auditor.

The aim of the remediation projects is to minimise PFAS leaving the Base, by focusing on the remediation and management of Source Areas. Over time this is anticipated to contribute to the reduction of PFAS in the Management Area, the PMAP sets out management measures to address soil and water contamination concerns to reduce risks.

The Enviropacific groundwater treatment works includes a series of extraction wells installed in the Q2 aquifer located within the P9 Source Area which extract groundwater for removal of PFAS in the water treatment plant (WTP). Flow rates typically were observed from extraction of the Q2 aquifer ranged from 0.5 to 0.75 litres per second since commissioning in August 2019 until November 2022, with water being treated successfully against performance criteria prior to reinjection into the Q2 aquifer in the vicinity of the WTP.

Sampling locations included in the OMP within the P9 Source Area (MW2148 (Q1), MW2158 (Q2), MW2284 (Q3) and MW2272 (Q4)) were investigated by AECOM in 2020 (AECOM, 2020c) as part of an assessment of potential WTP impacts to groundwater. The findings of the investigation indicated that there was insufficient data to conclude whether the WTP was having a material impact on PFAS concentrations in the Q1 and Q2 aquifers in the extraction area, although concentrations appeared stable (AECOM, 2020c). PFAS concentrations in the deeper Q3 and Q4 aquifer appeared to increase initially during operation of the WTP but declined again over a one-year cycle in 2020 (AECOM, 2020c), and then increased again in 2021 (AECOM, 2021c). It is noted that the quaternary groundwater formations are clayey in nature with low hydraulic conductivity and yield.

Additional works for groundwater remediation included the installation of additional extraction wells and the extraction and treatment of groundwater targeting Source Areas P3B, P11 and P27, commenced in September 2022. The current combined extraction rate from these areas is 3 litres per second.

Soil remediation works have included the excavation and treatment of the upper 0.5 m of soil from defined extents within Source Areas P4, P9, P10, P11, P15A/B and P16. Remedial works under the RAP for soil include soil washing and immobilising PFAS in soils with the addition of granulated activated carbon (GAC) prior to reinstatement in excavations with a geosynthetic clay layer base liner and transport of highly contaminated materials off-Base for thermal destruction. Upon the decommissioning of the soil treatment plant in May 2022, soil remediation works only include the stabilisation of PFAS in soils with GAC.

Previous remediation works undertaken during the 2022 OMP monitoring period were within Source Areas P9, P10, P15A/B and P16. As these works only targeted the top 0.5 m of soil it is unlikely that these activities have impacted the 2023 data. These activities have the potential to impact the data from

future monitoring rounds as removing the contaminated soil may halt or slow any mobilisation of PFAS from soil to groundwater in remediation Source Areas.

6.3 Infrastructure projects

Development works at the Base have included a number of facility developments. AECOM is not aware of any ongoing practices or recent incidents which are likely to influence the nature or extent of PFAS at the Base.

6.4 Climate

The 2023 monitoring period for the PFAS OMP monitoring events (AECOM, 2023a, AECOM, 2023b) was characterised by generally dry conditions in summer and wet conditions in the winter.

During the current reporting period, the greater Adelaide region and Edinburgh experienced a number of significant rainfall events, in addition to an unusually wet spring in 2022. Monthly rainfalls exceeded the historical monthly average leading up to both dry season and wet season sampling events. Rainfall ahead of the ad hoc sampling event in October 2023 was below average.

Despite greater than average rainfall recorded in the months prior to the sampling events, both January and July recorded rainfall less than the monthly averages and hence inadequate water was present to collect all surface water samples; of the 21 sample locations, five were reported dry in January and three in July. Total monthly rainfall in Edinburgh from August 2022 to October 2023 is compared to the historical mean for corresponding months (using data from 1972 to 2022) in **Figure 1**.

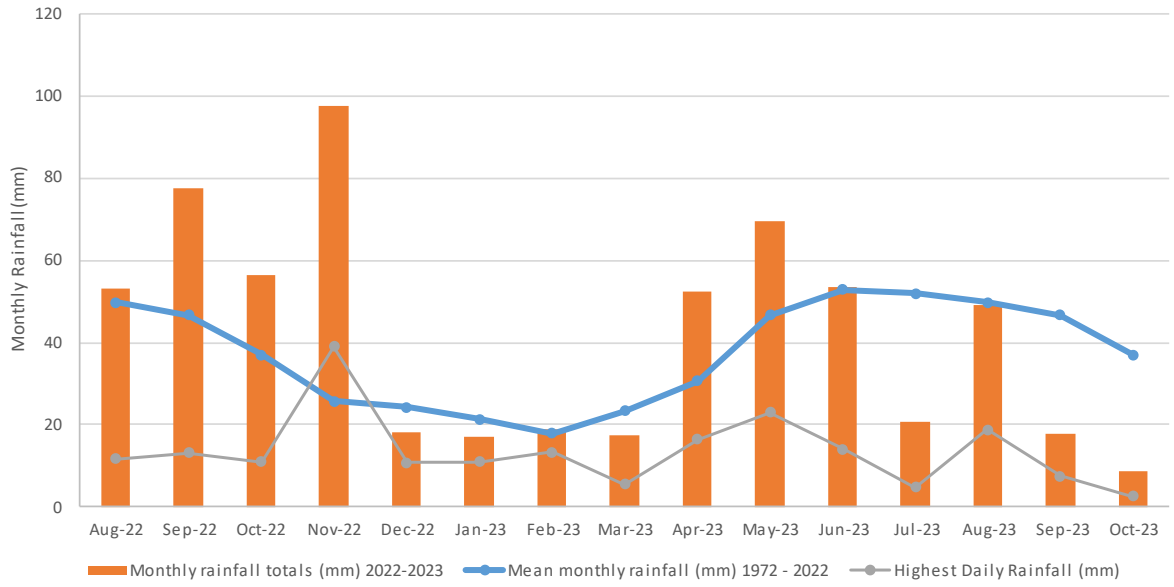


Figure 1 2022/2023 Rainfall data and mean monthly rainfall for RAAF Base Edinburgh (Station 023083) (BOM, 2023)

Mean monthly maximum temperature for the current monitoring period were generally consistent with the long-term mean, as seen in **Figure 2.**

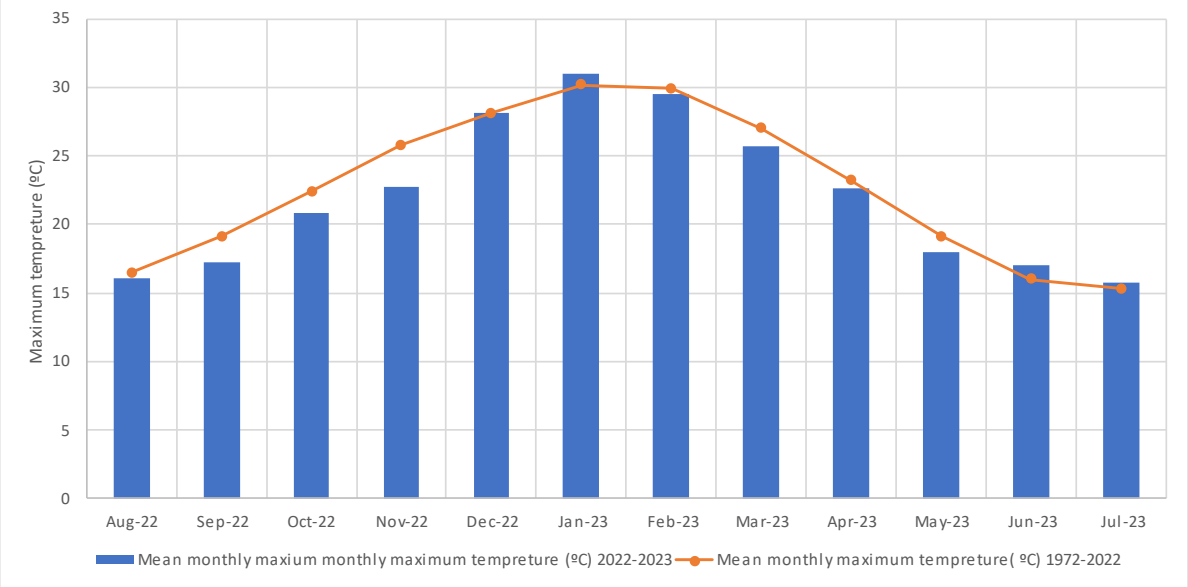


Figure 2 Monthly mean maximum temperature 2022-2023 and long-term mean (Station 023083) (BOM, 2023)

Climatic conditions over the period of years may result in changes to the hydrogeological system and manifest in a number of outcomes relevant to the monitoring of PFAS at RAAF Edinburgh and surrounds. The majority of wells in the monitoring well network have displayed increased elevations in the January/February and July 2023 monitoring rounds compared to the respective monitoring rounds in 2022, which is likely a result of the above average rainfall recorded. Groundwater elevations are discussed further in **Section 7.1.2**. The increased volume of rainfall results in increased volume of surface waters being present in the broader catchment, which has the potential to impact the Base drainage network and surface water results in the following ways:

- The increased volume of surface waters being present in the broader catchment has the potential to increase the distribution of PFAS compounds within the surface water bodies and may result in PFAS being detected in surface water at greater distances from the source.
- Increased rainfall has the potential to mobilise PFAS from shallow contaminated soils, resulting in increased PFAS concentrations being detected in surface water samples.
- Increased rainfall also has the potential to dilute concentrations of surface water at source locations.

7.0 Monitoring data summary

7.1 Groundwater

7.1.1 Groundwater field observations

During the January/February monitoring event field staff recorded the following observations:

- MW2411 was observed to be buried approximately 0.5 m bgl, due to being covered during the Ventia excavations of P4. However, the Gatic cover and well head were intact and undamaged and the area was cleared with a shovel.

During the July monitoring event field staff recorded the following observations

- Monitoring wells MW4027 and MW4076 were flooded above top of casing and were subsequently not sampled during the July sampling event.
- Monitoring well MW2411 was observed to be buried 1 m bgl due to being covered during excavation works as a part of the remediation project P4 during the July sampling event.
- Monitoring well MW2116 was buried as a result of recent excavation works.
- The Gatic cover at MW4028 was observed to be damaged, the PVC casing remained intact and in working order.

Defence was notified of the burial of MW2411 and MW2116 and subsequently informed Ventia who extended the standpipe at MW2411 and uncovered the well at MW2116. Both wells in addition to MW4027 and MW4076 were sampled during an ad hoc sampling event in October 2023. The Gatic cover at MW4028 was repaired by WB Drilling in October 2023.

Following the repair of MW2411, the top of casing was surveyed for elevation and location coordinates by Linkup Surveying as a part of Regional Contamination Investigation Program.

7.1.2 Groundwater elevations

The standing water level (SWL) was measured, where possible, across all scheduled wells to evaluate the groundwater elevations in mAHD within the management Area.

Groundwater elevation contours generated from gauging results collected during the OMP monitoring of the Q1 to Q4 aquifers are presented in **Figure A5.1** to **Figure A5.4** (**Appendix A**) for January/February and **Figure A5.5** to **Figure A5.8** (**Appendix A**) for July 2023.

18 gauge only locations supplement the monitoring well network to generate additional data for groundwater elevation and flow direction interpretations. The gauge only locations include:

- Q1 on-Base locations: MW2118, MW2156, MW2163, MW2171
- Q1 off-Base locations: MW4006, MW4028, MW4029, MW4030, MW4043, MW4046, MW4047, MW4049
- Q2 on-Base locations: MW2160, MW2164, MW2199, MW2195
- Q2 off-Base locations: MW4031, MW4032.

7.1.3 Groundwater flow directions

Groundwater elevation data are tabulated in **Table T1** (**Appendix D**). Groundwater elevations and contours for the monitoring event indicate that groundwater generally flows to the west/southwest across the Monitoring Area for all Quaternary aquifers. Groundwater contouring also indicated that the Helps Road Drain influences groundwater flow in the shallower aquifers.

Contours were not generated for the Q3 and Q4 aquifers due to limited data; however, an inferred flow direction was generated with the available data. No contours were generated for the T1 aquifer for both events as there were insufficient data points.

During the January/February sampling event, not all wells targeting the Q3 and Q4 aquifer were gauged within a 24-hour period due to delays in council access approvals for off-Base wells. Groundwater elevations have potential to be compromised however flow directions are consistent with previous years.

7.1.4 Groundwater quality parameter field measurements results

During each sampling event, groundwater physiochemical parameters were recorded prior to collecting groundwater samples. Historical water quality parameters recorded since the commencement of the OMP in March 2020 are presented in **Table T1** (**Appendix D**).

Parameters for the 2023 monitoring rounds are presented in each of the respective factual reports in **Appendix C**. The field parameter readings from the 2023 sampling events are summarised in **Table 6** below.

Table 6 Groundwater field parameter ranges (min – max)

Aquifer	Parameter	January/February 2023	July 2023
Q1	Dissolved oxygen (DO) (milligrams per litre [mg/L])	0.93 (MW4058) – 8.89 (MW2149)	0.62 (MW2501) – 8.15 (MW2116)
	Electrical conductivity (EC) (microsiemens per centimetre [µS/cm])	450.2 (MW4027) – 24,227 (MW4023)	662 (MW2131) – 22,231 (MW2175)
	pH	6.74 (MW2358) – 8.22 (MW4001)	6.75 (MW4218) – 8.42 (MW2131)
	Oxidation reduction potential (ORP) (mV)- corrected	-25.4 (MW2172) – 431.1 (MW4219)	-94.5 (MW2501) - 357 (MW2134)
Q2	DO (mg/L)	1.04 (MW4035) – 6.44 (MW2158)	0.55 (MW4065) – 5.14 (MW4024)
	EC (µS/cm)	930 (MW4048) – 25,849 (MW2176)	959 (MW4048) – 26,391 (MW2176)
	pH	6.77 (MW2126) – 11.72 (MW2210)	6.7 (MW4076) – 11.73 (MW2210)
	ORP (mV) - corrected	-105.7 (MW2173) – 316 (MW2185)	-94.6 (MW2173) – 273.9 (MW2183)
Q3	DO (mg/L)	0.81 (MW4071) – 5.52 (MW2275)	0.90 (MW2275) – 4.56 (MW4068)
	EC (µS/cm)	2,119 (MW4074) – 13,120 (MW4071)	1,547 (MW4068) – 11,033 (MW4071)
	pH	6.73 (MW2270) – 11.49 (MW4068)	7 (MW2275) – 11.74 (MW2272)
	ORP (mV) - corrected	-86.3 (MW4073) – 419.2 (MW2272)	-14.8 (MW2272) – 328.6 (MW2281)
Q4	DO (mg/L)	1.03 (MW2285) – 4.63 (MW2286)	1.22 (MW2285) – 5.25 (MW4079)
	EC (µS/cm)	2,399 (MW2286) – 16,378 (MW4078)	2,150 (MW2286) – 14,598 (MW4078)
	pH	7.23 (MW4078) – 12.18 (MW4079)	6.97 (MW4078) – 12.56 (MW4079)
	ORP (mV) - corrected	-8.8 (MW2284) – 356.1 (MW4078)	-105.5 (MW2284) – 277.7 (MW4078)
T1	DO (mg/L)	2.11 (MW4220) – 3.50 (MW4221)	1.73 (MW4221) – 2.20 (MW4220)
	EC (µS/cm)	1,160 (MW4222) – 1,696 (MW4221)	1,099 (MW4222) – 1,766 (MW4221)
	pH	7.4 (MW4221)- 7.59 (MW4220)	7.51 (MW4220) – 7.87 (MW4221)
	ORP (mV) - corrected	73 (MW4221) – 183.6 (MW4222)	44.3 (MW4222) – 81.1 (MW4220)

7.1.5 Groundwater analytical results

Groundwater analytical results are presented in **Table T2** (**Appendix D**), and monitoring activities are summarised in OMP Factual Reports provided in **Appendix C**. Monitoring locations are presented in **Figure A2** (**Appendix A**) and concentration maps are presented in **Figure A4.1** to **A4.8** (**Appendix A**).

Table 7 below provides a summary of groundwater analytical results, including historical OMP results.

Table 7 Summary of historical results for PFAS in groundwater

Sampling event	No. sample locations analysed	On/Off-Base	Compound	Concentration range, µg/L (location)	No. of sample locations with concentrations >LOR
March 2020	102 (59 On-Base, 43 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 23,000 (MW2116)	58
			PFOA	<0.01 – 582 (MW2116)	41
		Off-Base	PFOS+PFHxS	<0.01 – 22.5 (MW4068)	27
			PFOA	<0.01 – 0.28 (MW4003)	16
July 2020	104 (60 On-Base, 44 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 23,400 (MW2116)	55
			PFOA	<0.01 – 638 (MW2116)	43
		Off-Base	PFOS+PFHxS	<0.01 – 20.2 (MW4015)	31
			PFOA	<0.01 – 0.32 (MW4015)	20
January 2021	105 (60 On-Base, 45 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 11,000 (MW2116)	53
			PFOA	<0.01 – 219 (MW2116)	40
		Off-Base	PFOS+PFHxS	<0.01 – 16.2 (MW4035)	22
			PFOA	<0.01 – 0.27 (MW4035)	16
July/August 2021	102 (60 On-Base, 42 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 9,560 (MW2116)	53
			PFOA	<0.01 – 192 (MW2116)	40
		Off-Base	PFOS+PFHxS	<0.01 – 20.1 (MW4035)	19
			PFOA	<0.01 – 0.32 (MW4035)	15
January/ February 2022	104 (60 On-Base, 44 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 8,860 (MW2116)	53
			PFOA	<0.01 – 194 (MW2116)	40
		Off-Base	PFOS+PFHxS	<0.01 – 13 (MW4035)	23
			PFOA	<0.01 – 0.22 (MW4003)	17

Sampling event	No. sample locations analysed	On/Off-Base	Compound	Concentration range, µg/L (location)	No. of sample locations with concentrations >LOR
July 2022	105 (60 On-Base, 45 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 13,600 (MW2116)	54
			PFOA	<0.01 – 385 (MW2116)	38
		Off-Base	PFOS+PFHxS	<0.01 – 18.9 (MW4035)	23
			PFOA	<0.01 – 0.32 (MW4035)	16
January/ February/ March 2023	105 (60 On-Base, 45 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 11,200 (MW2116)	56
			PFOA	<0.01 – 371 (MW2116)	39
		Off-Base	PFOS+PFHxS	<0.01 - 8.17 (MW4015)	23
			PFOA	<0.01 – 0.22 (MW4075)	16
July 2023	105 (60 On-Base, 45 Off-Base)	On-Base	PFOS+PFHxS	<0.01 – 12,200 (MW2116)	54
			PFOA	<0.01 – 417 (MW2116)	41
		Off-Base	PFOS+PFHxS	<0.01 – 13.2 (MW4003)	22
			PFOA	<0.01 – 0.26 (MW4075)	16

Groundwater samples from Q1 well MW2116 had reported the highest PFOS+PFHxS and PFOA concentrations during the current monitoring period, and historically. MW2116 is located on-Base at Source Area P11.

During the 2023 reporting period, no new first-time detects were reported for PFOS+PFHxS and/or PFOA. No new locations were reported to exceed NEMP drinking water guidelines for PFOS+PFHxS and/or PFOA. It is noted that monitoring location MW2182 had a first-time exceedance of the drinking water guideline value of 0.07 µg/L for PFOS in January 2023, however, this location has exceeded the drinking water guideline value for PFOS+PFHxS since first sampled in 2018. Likewise, monitoring location MW2134 exceeded the drinking water guideline value for PFHxS in November 2023, though has exceeded the drinking water guideline value for PFOS+PFHxS since 2020.

During the current monitoring period, new maximum concentrations of PFOS, PFHxS, PFOS+PFHxS and or PFOA were identified in OMP groundwater sampling locations as presented in **Table 8**.

Table 8 Groundwater results - new maximum concentrations of PFOS, PFHxS, PFOS+PFHxS and/or PFOA

Location	Area	New maximum	Former maximum
January/February 2023			
MW2114	Source Area P1	PFOS (190 µg/L)	PFOS (138 µg/L) Feb 2022
		PFHxS (116 µg/L)	PFHxS (83.0 µg/L) July 2022
		PFOS+PFHxS (306 µg/L)	213 µg/L January 2023
		PFOA (21.1 µg/L)	12.2 µg/L January 2022
MW2173	On-Base - western boundary	PFOS (0.07 µg/L)	0.04 µg/L January 2021
		PFOS+PFHxS (0.11 µg/L)	0.08 µg/L January 2021

Location	Area	New maximum	Former maximum
MW2148	Source Area P9	PFOS (684 µg/L)	640 µg/L January 2021
		PFHxS (523 µg/L)	376 µg/L August 2021
		PFOS+PFHxS (1210 µg/L)	956 µg/L July 2022
		PFOA (43.3 µg/L)	31.8 µg/L July 2022
MW2188	Source Area P10	PFOS (199 µg/L)	139 µg/L July 2022
		PFOS+PFHxS (304 µg/L)	233 µg/L July 2022
		PFOA (5.76 µg/L)	5.17 µg/L July 2022
MW2120	Source Area P16	PFHxS (60.5 µg/L)	7.70 µg/L July 2020
		PFOA (6.21 µg/L)	1.07 µg/L July 2020
MW2175	On-Base - western boundary	PFHxS (0.43 µg/L)	0.40 µg/L June 2018
MW2270	Source Area P16	PFOS (0.82 µg/L)	0.52 µg/L July 2022
		PFOS+PFHxS (1.81 µg/L)	1.59 µg/L July 2022
MW2275	Source Area P23	PFOS (0.38 µg/L)	0.18 µg/L February 2018
		PFOS+PFHxS (1.86 µg/L)	1.78 µg/L February 2018
MW2216	On-Base – northern boundary	PFHxS (0.01 µg/L)	<0.01 µg/L
MW2182	On-Base – southern boundary	PFOS (0.21 µg/L)	0.06 µg/L July 2020
		PFOS+PFHxS (0.29 µg/L)	0.20 µg/L July 2020
MW2185	On-Base – southern boundary	PFOS (8.32 µg/L)	8.15 µg/L July 2022
		PFHxS (4.01 µg/L)	3.99 µg/L July 2022
		PFOS+PFHxS (12.3 µg/L)	12.1 µg/L July 2022
MW4037	On-Base – eastern boundary	PFHxS (0.02 µg/L)	0.01 µg/L July 2022
MW4057	Off-Base – Heaslip Road	PFOS+PFHxS (0.37 µg/L)	0.36 µg/L July 2018
MW4075	Off-Base – Helps Road Drain	PFOS (0.53 µg/L)	0.11 µg/L February 2022
		PFHxS (5.1 µg/L)	0.34 µg/L February 2022
		PFOS+PFHxS (5.63 µg/L)	0.45 µg/L February 2022
		PFOA (0.22 µg/L)	0.02 µg/L February 2022
July 2023			
MW2114	Source Area P1	PFOS (525 µg/L)	190 µg/L January 2023
		PFHxS (309 µg/L)	116 µg/L January 2023
		PFOS+PFHxS (834 µg/L)	306 µg/L January 2023
		PFOA (56.1 µg/L)	21.1 µg/L January 2023
MW2209	Source Area P1	PFOS (0.64 µg/L)	0.43 µg/L July 2022
		PFOS+PFHxS (0.7 µg/L)	0.46 µg/L July 2022
MW2120	Source Area P16	PFOS (333 µg/L)	240 µg/L June 2018
		PFHxS (280 µg/L)	60.5 µg/L July 2023
		PFOS+PFHxS (613 µg/L)	264 µg/L June 2018
		PFOA (23 µg/L)	6.21 µg/L January 2023
MW2148	Source Area P9	PFOS (755 µg/L)	684 µg/L January 2023

Location	Area	New maximum	Former maximum
		PFHxS (620 µg/L)	523 µg/L January 2023
		PFOS+PFHxS (1380 µg/L)	1210 µg/L January 2023
		PFOA (53.3 µg/L)	43.3 µg/L January 2023
MW2149	Source Area P9	PFOS (227 µg/L)	180 µg/L July 2017
MW2134	On-Base – eastern boundary	PFHxS (0.07 µg/L)	0.06 µg/L January 2023
MW2169	On-Base – western boundary	PFOS (0.13 µg/L)	0.09 µg/L January 2023
MW2188	Source Area P15	PFOS (202 µg/L)	199 µg/L January 2023
MW2411	Source Area P4	PFOS (14.7 µg/L)	4.10 µg/L July 2020
		PFOS+PFHxS (15.2 µg/L)	5.29 µg/L July 2020
MW2175	On-Base – western boundary	PFHxS (0.64 µg/L)	0.43 µg/L January 2023
		PFOS+PFHxS (0.71 µg/L)	0.62 µg/L July 2020
MW2183	On-Base – southern boundary	PFOS (4.22 µg/L)	3.99 µg/L July 2022
		PFHxS (2.34 µg/L)	1.99 µg/L July 2022
		PFOS+PFHxS (6.56 µg/L)	5.98 µg/L July 2022
MW2185	On-Base – southern boundary	PFOS (8.75 µg/L)	8.32 µg/L January 2023
		PFHxS (4.3 µg/L)	4.01 µg/L January 2023
		PFOS+PFHxS (13 µg/L)	12.3 µg/L January 2023
MW2281	On-Base – southern boundary	PFOS (3.74 µg/L)	2.21 µg/L March 2020
		PFHxS (2.01 µg/L)	1.04 µg/L March 2020
		PFOS+PFHxS (5.75 µg/L)	3.25 µg/L March 2020
		PFOA (0.11 µg/L)	0.09 µg/L December 2018
MW4057	Off-Base – Heaslip Road	PFHxS (0.21 µg/L)	0.19 µg/L February 2023
		PFOS+PFHxS (0.43 µg/L)	0.37 µg/L February 2023
		PFOA (0.06 µg/L)	0.05 µg/L March 2020
MW4072	Off-Base – Waterloo Corner Rd	PFOS+PFHxS (0.03 µg/L)	0.02 µg/L January 2023
MW4074	Off-Base – Bolivar Road	PFOS (0.16 µg/L)	0.15 µg/L February 2023
		PFOS+PFHxS (0.16 µg/L)	0.15 µg/L February 2023
MW4075	Off-Base – Helps Road Drain	PFOS (0.58 µg/L)	0.53 µg/L February 2023
		PFHxS (6.24 µg/L)	5.1 µg/L February 2023
		PFOS+PFHxS (6.82 µg/L)	5.63 µg/L February 2023
		PFOA (0.26 µg/L)	0.22 µg/L February 2023

During the current monitoring period, new minimum concentrations of PFOS+PFHxS and/or PFOA were identified in OMP groundwater sampling locations as presented in **Table 9**.

Table 9 Groundwater results - new minimum concentrations of PFOS, PFHxS, PFOS+PFHxS and/or PFOA

Location	Area	Details
January/February 2023		
MW2116	Source Area P11	PFOS
MW2131	Source Area P1	PFOA

Location	Area	Details
MW2528	Source Area P1	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW2130	Source Area P3B	PFOS
		PFHxS
		PFOS+PFHxS
MW2411	Source Area P4	PFOS
MW2126	Source Area P4	PFHxS
		PFOS+PFHxS
MW2177	On-Base – southern boundary	PFHxS
MW2284	Source Area P9	PFOA
MW2150	Source Area P10	PFHxS
		PFOA
MW2200	Source Area P16	PFHxS
		PFOS+PFHxS
		PFOA
MW2201	Source Area P16	PFOS+PFHxS
MW2210	Source Area P3A	PFOS
		PFOS+PFHxS
MW2180	On-Base – Southern boundary	PFHxS
MW2193	Source Area P21	PFOA
MW2490	Source Area P27	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4013	Off-Base - Southern detention basin	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4015	Off-Base – Helps Road drain	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4069	Off-Base – Helps Road drain	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4045	Off-Base – Helps Road drain	PFOS
		PFHxS
		PFOS+PFHxS
MW4048	Off-Base – Helps Road drain	PFOS
		PFHxS

Location	Area	Details
		PFOS+PFHxS
		PFOA
MW4035	Off-Base – Edinburgh Road	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4023	Off-Base – Huxtable Road	PFOS
		PFHxS
		PFOS+PFHxS
MW4073	Off-Base – Waterloo Corner	PFHxS
		PFOS+PFHxS
MW4219	Off-Base – Waterloo Corner	PFOS
		PFOS+PFHxS
July 2023		
MW2126	Source Area P4	PFHxS
MW2162	Source Area P4	PFOS
		PFOS+PFHxS
MW2130	Source Area P3B	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW2131	Source Area P3a	PFHxS
MW2210	Source Area P3a	PFHxS
MW2528	Source Area P3a	PFHxS
MW2145	On-Base – western boundary	PFOS
MW2150	Source Area P10	PFHxS
		PFOS+PFHxS
		PFOA
MW2203	Source Area P11	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW2200	Source Area P16	PFHxS
		PFOS+PFHxS
MW2201	Source Area P16	PFHxS
		PFOS+PFHxS
MW2490	Source Area P27	PFOS
		PFOS+PFHxS
		PFOA
MW2177	On-Base - western boundary	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA

Location	Area	Details
MW2180	On-Base – southern boundary	PFOS
		PFHxS
		PFOS+PFHxS
MW4045	Off-Base – Helps Road drain	PFOS
		PFHxS
		PFOS+PFHxS
MW4013	Off-Base – southern boundary	PFOS
MW4023	Off-Base – Huxtable Road	PFHxS
		PFOS+PFHxS
		PFOA
MW4024	Off-Base – Huxtable Road	PFOS
		PFHxS
		PFOS+PFHxS
MW4035	Off-Base – Edinburgh Road	PFOS
		PFHxS
		PFOS+PFHxS
		PFOA
MW4073	Off-Base – Mumford Road	PFOA
MW4066	Off-Base – Mumford Road	PFHxS
		PFOS+PFHxS
MW4073	Off-Base –Waterloo Corner Road	PFHxS
		PFOS+PFHxS
MW4219	Off-Base –Waterloo Corner Road	PFOS+PFHxS

7.1.6 Background locations PFAS analytical results

Monitoring wells both on and Off-Base in the north and eastern portion of the management area are situated to measure PFAS concentrations to represent the background conditions of groundwater in the Q1 and Q2 aquifers. A summary of the well locations follows:

- MW2325 (Q1), MW2134 (Q1), and MW2218 (Q2) located on-Base closest to the eastern boundary.
- MW2135 (Q1), MW2159 (Q1) and MW2216 (Q2) located on-Base and closest to the northern boundary.
- MW4218 (Q1) located off-Base and northeast of the Base on Stebonheath Road.

Four of the seven background monitoring wells reported concentrations of PFOS+PFHxS below the laboratory limit of reporting (LOR) for the 2023 monitoring rounds, with wells MW2134 (Q1), MW2216 (Q2) and MW2218 (Q2) being the exceptions.

Monitoring wells MW2134 and MW2218 are located close to the eastern boundary and as per 2022 results reported detections of PFOS+PFHxS in both wet and dry seasons. Concentrations of PFOS+PFHxS remain withing historical ranges for these locations. The PFAS NEMP 2.0 (HEPA, 2020) 2020 Human Health Drinking Water guideline (0.07 µg/L) was exceeded at both locations during the two 2023 monitoring rounds.

Concentrations of PFOS+PFHxS reported above the laboratory LOR at MW2216 (Q2) during the dry season of 2023. Concentrations remain below adopted groundwater criteria and within historical ranges.

Concentrations of PFOA were reported below the laboratory LOR in 2023 for background locations with the exception of MW2118 for the wet season. Concentrations did not exceed the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) and were within the historical range.

Analytical results are summarised in **Table 10**, the location of each background well sampled is displayed in **Figure 3** (note that MW4011 was destroyed and replaced by MW4218 in 2017) and PFOS+PFHxS trends are illustrated in **Figure 4** and **Figure 5**. For graphical purposes where concentrations are reported below the laboratory LOR, the concentrations are represented as half the laboratory LOR (i.e., 0.005 µg/L). Where results for monitoring wells were consistently below the laboratory LOR, those wells are not plotted.

Table 10 Background locations on and Off-Base PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW2134 (Q1)	PFOS+PFHxS	0.03	0.44	0.06	0.07
	PFOA	ND	ND	ND	ND
MW2135 (Q1)	PFOS+PFHxS	ND	0.03	ND	ND
	PFOA	ND	ND	ND	ND
MW2159 (Q1)	PFOS+PFHxS	ND	**0.42**	ND	ND
	PFOA	ND	ND	ND	ND
MW2216 (Q2)	PFOS+PFHxS	ND	0.03	0.03	ND
	PFOA	ND	ND	ND	ND
MW2218 (Q2)	PFOS+PFHxS	ND	**5.08**	**0.47**	**1.92**
	PFOA	ND	**0.10**	ND	0.03
MW2325 (Q1)	PFOS+PFHxS	ND	**0.29**	ND	ND
	PFOA	ND	ND	ND	ND
MW4218 (Q1)	PFOS+PFHxS	ND*	ND*	ND	ND
	PFOA	ND*	ND*	ND	ND

Bold denotes exceedance of PFAS NEMP 2.0 (2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

* Historical values adopted from destroyed monitoring location MW4011 (destroyed in 2017)

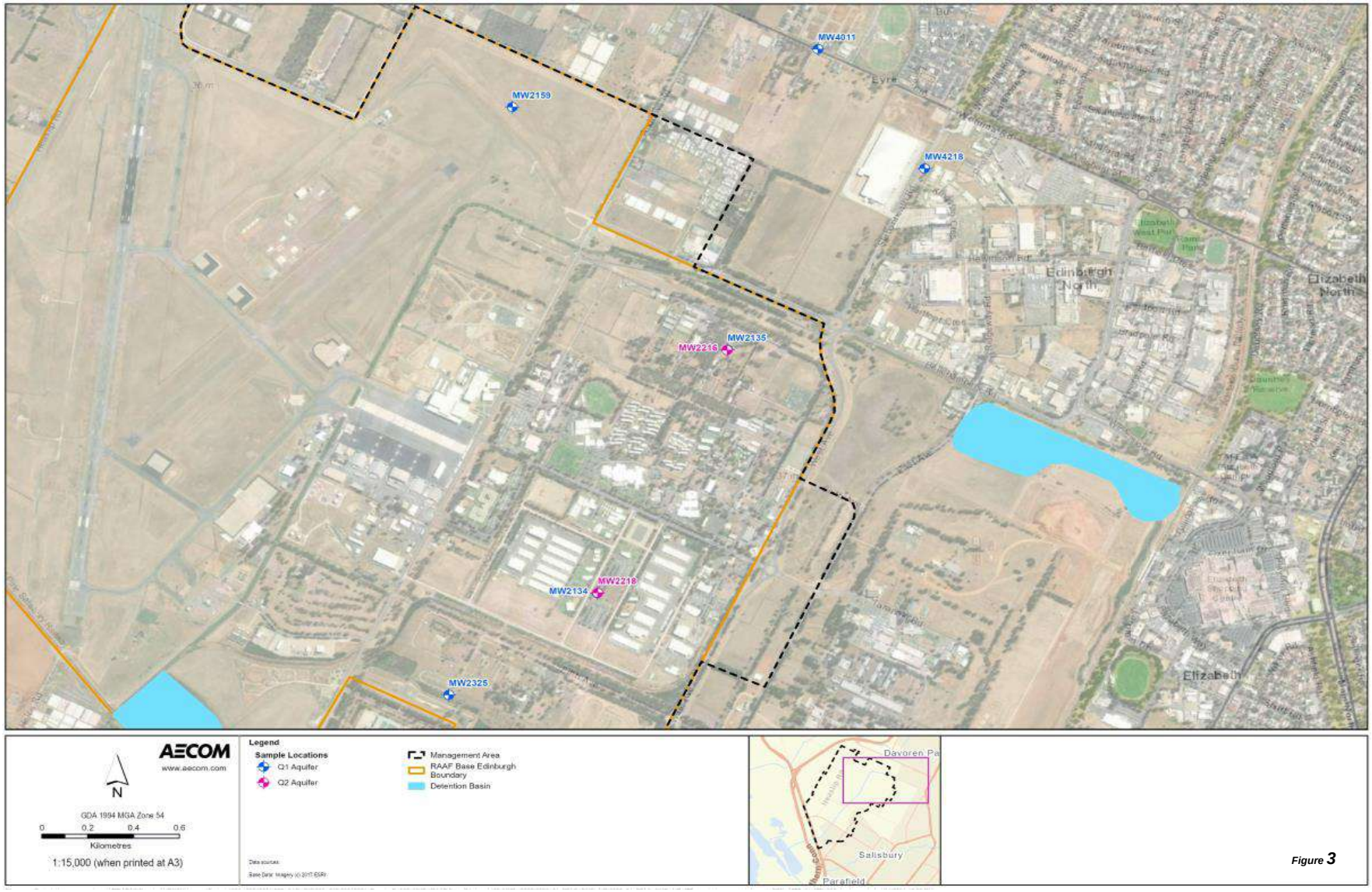


Figure 3 Background sample locations.

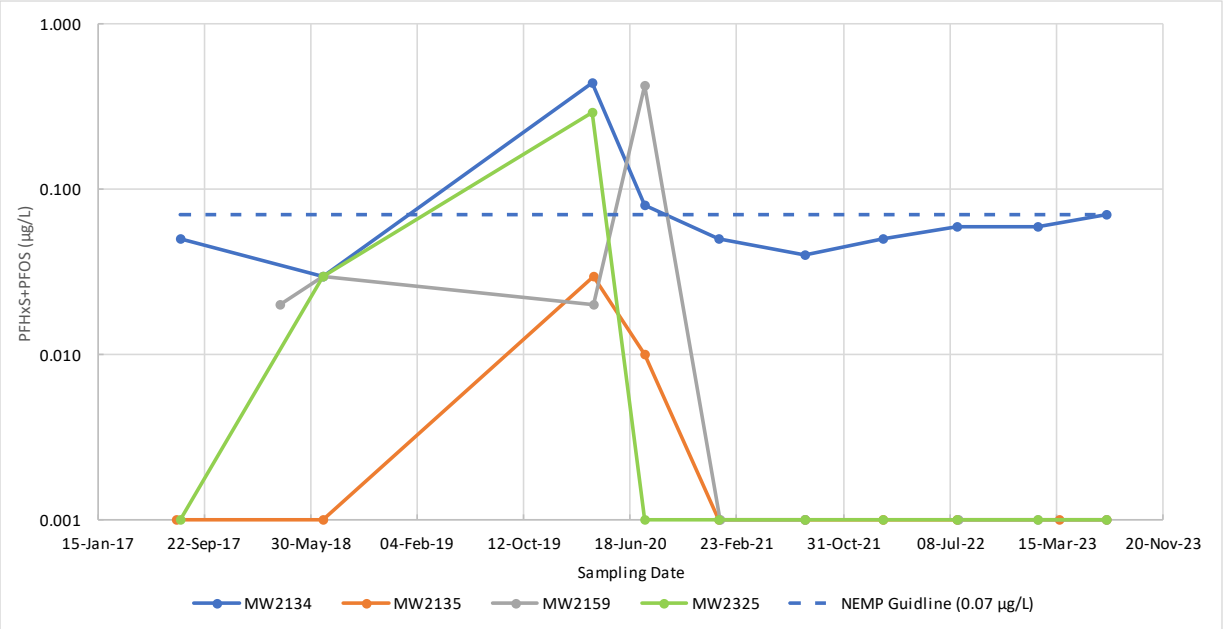


Figure 4 Q1 monitoring wells PFOS+PFHxS concentrations trends at background locations.

Note: MW4218 not included as current and historical results below the laboratory LOR.

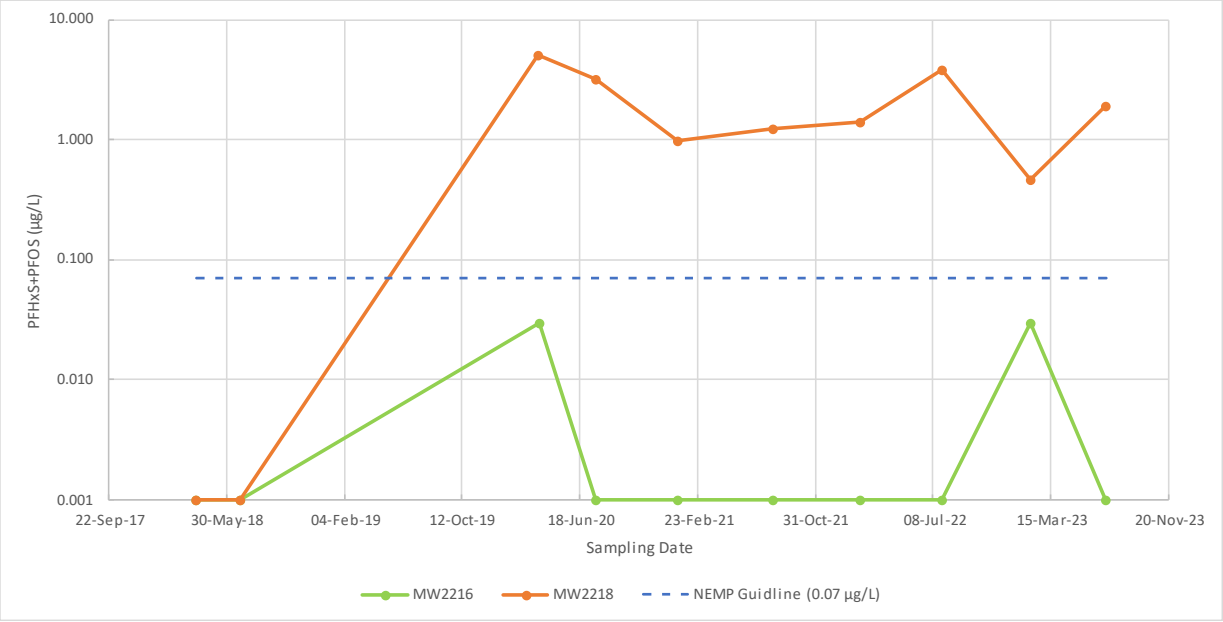


Figure 5 Q2 monitoring wells PFOS+PFHxS concentration trends at background locations

7.1.7 Source Area P4 PFAS analytical results

Selected on-Base monitoring wells in the airside operations area were sampled to measure PFAS concentrations relating to the Source Area P4, the former fire training ground and sub-surface waste dump. The locations include:

- Q1: MW2358, MW2411 and MW2394
- Q2: MW2126 and MW2162.

All concentrations of PFOS+PFHxS were reported above the laboratory LOR in both monitoring rounds in 2023 and exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guidelines (0.07 µg/L). These results are consistent with historical exceedances of the adopted guideline. It is noted the well MW2411 identified a significant spike in PFOS concentrations with a result in October 2023 of 14.7 µg/L (new maximum sum of PFOS+PFHxS of 15.2 µg/L), compared to the February 2023 PFOS result of 0.1 µg/L. This is also well above the historical high of 4.1 µg/L identified in July 2020. The potential for this spike to have resulted from ingress of contaminated soil is discussed in **Section 8.2.1.3**.

PFOA results were reported above the laboratory LOR at all locations with the exception of MW2394 (Q1) and MW2411 (Q1) during both dry and wet seasons in 2023 monitoring rounds and MW2162 (Q2) in wet season only. Concentrations of PFOA exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) at MW2358 (Q1) in both the dry season and wet season 2023 monitoring rounds, consistent with historical exceedances of the adopted guideline.

Analytical results are summarised in **Table 11,** the locations sampled are located in **Figure 6** and PFOS+PFHxS trends are illustrated in **Figure 8** and **Figure 7**. For graphical purposes where concentrations are reported below the laboratory LOR, the concentrations are presented as half the LOR.

Table 11 Source Area P4 PFAS Summary Results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW2126 (Q2)	PFOS+PFHxS	**1.23**	**2.50**	**1.07**	**1.07**
	PFOA	0.03	0.07	0.03	0.03
MW2162 (Q2)	PFOS+PFHxS	**0.44**	**2.83**	**0.44**	**0.45**
	PFOA	ND	0.07	0.01	ND
MW2358 (Q1)	PFOS+PFHxS	**81.6**	**660**	**121**	**277**
	PFOA	**1.95**	**15**	**2.89**	**6.33**
MW2394 (Q1)	PFOS+PFHxS	**0.10**	**0.37**	**0.08**	**0.09**
	PFOA	ND	ND	ND	ND
MW2411 (Q1)	PFOS+PFHxS	**0.54**	**5.29**	**0.56**	**15.2*[1]**
	PFOA	ND	0.06	ND	ND

Bold denotes exceedance of PFAS NEMP 2.0 (2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

*Denotes wells sampled during October

[1]New maximum value

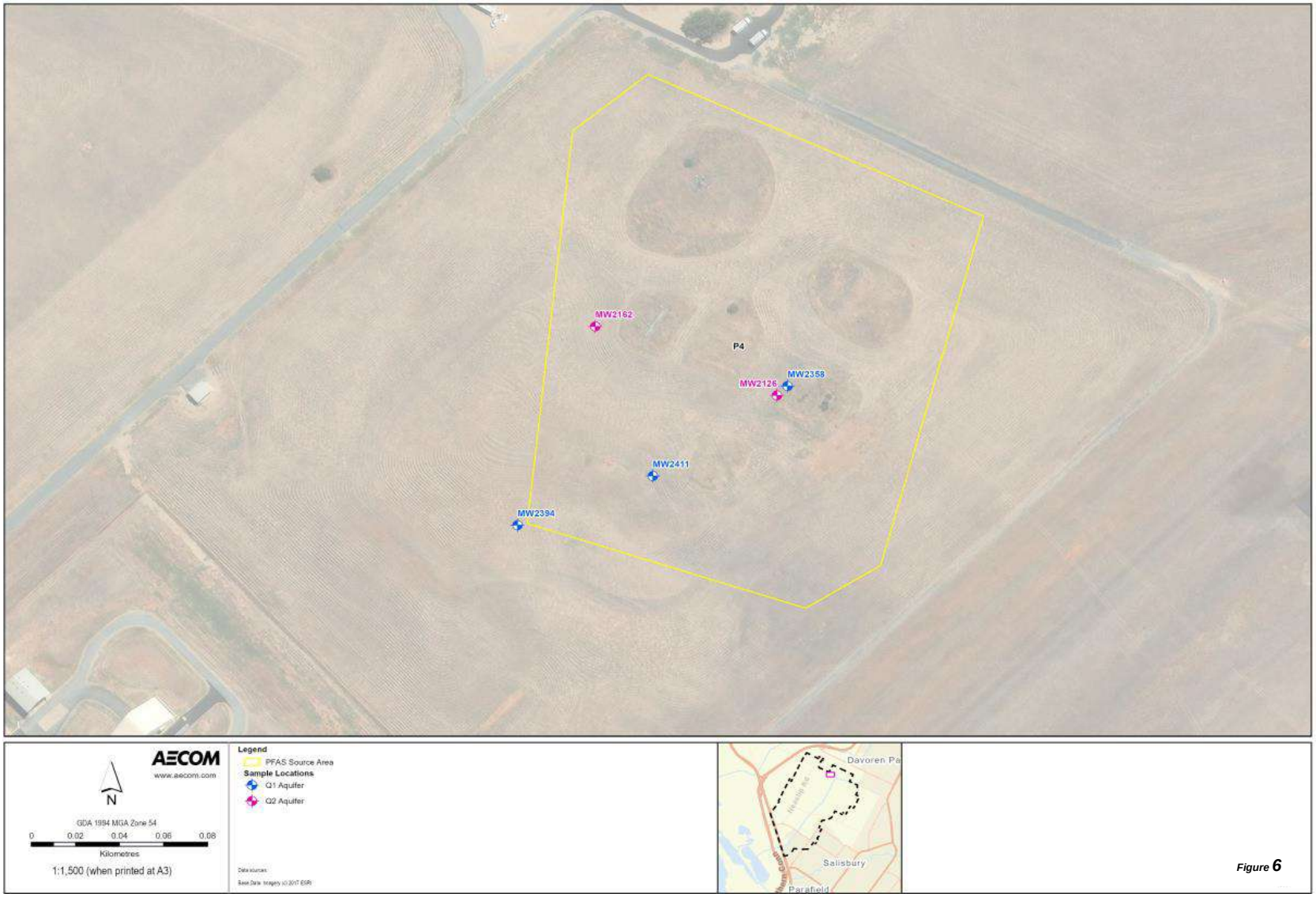


Figure 6 Source Area P4 sampled locations

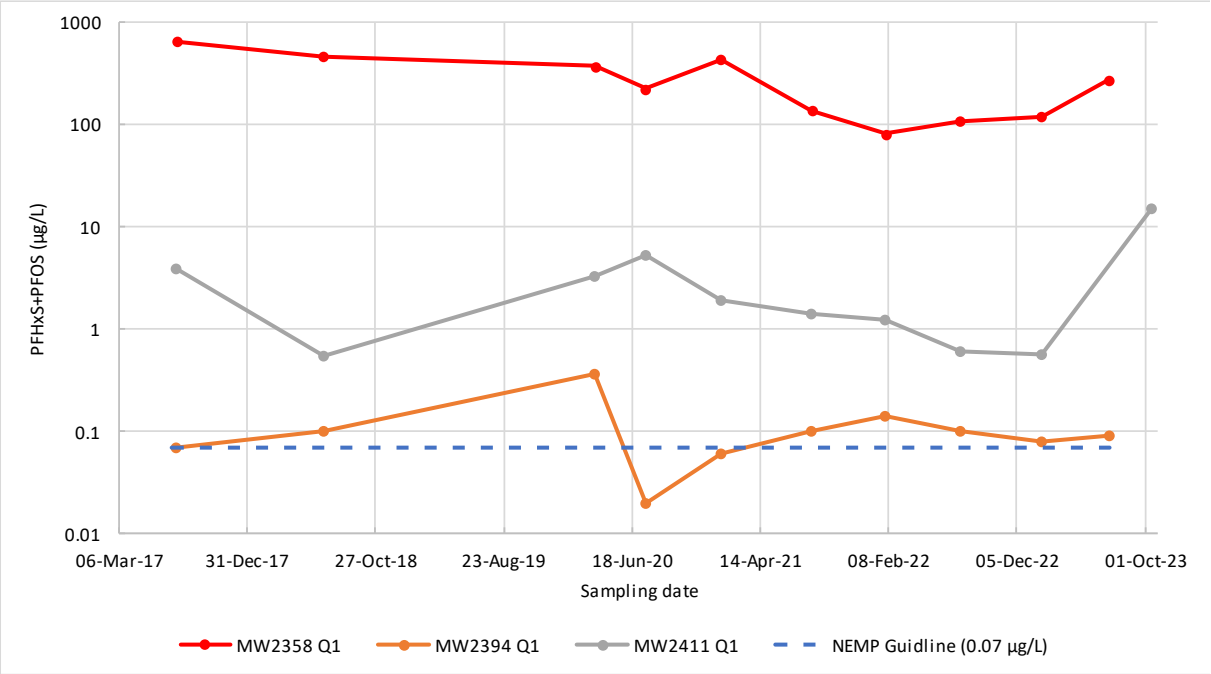


Figure 7 Q1 monitoring wells PFOS+PFHxS concentration trends at Source Area P4

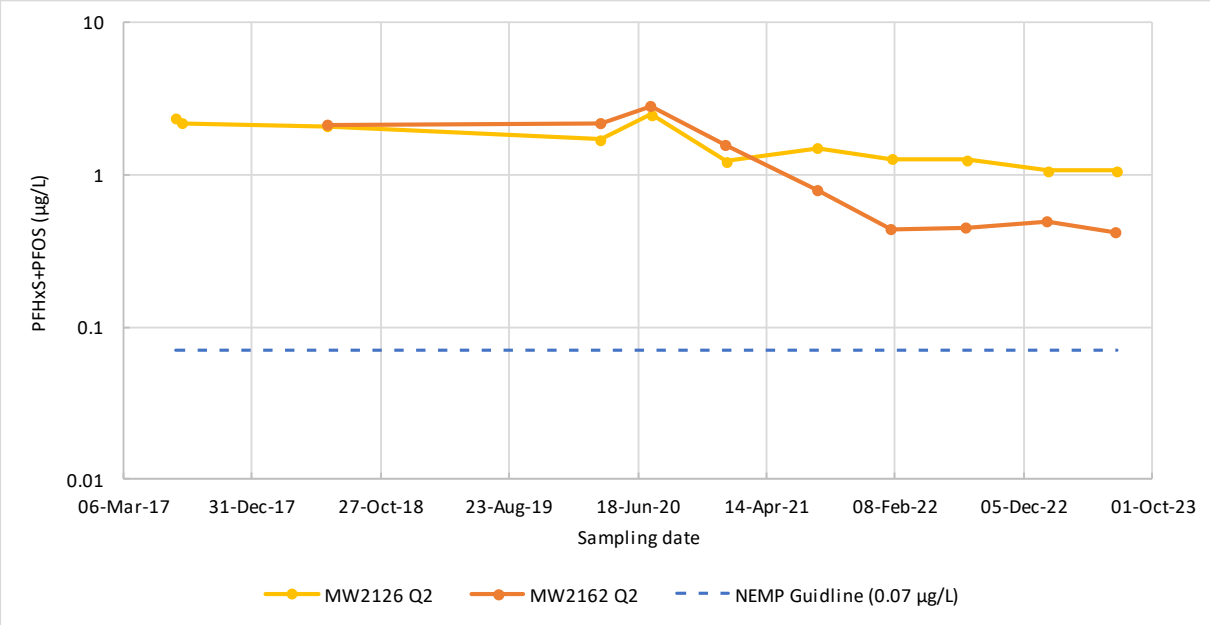


Figure 8 Q2 monitoring wells PFOS+PFHxS concentration trends at Source Area P4

7.1.8 Source Areas P9 and P15A/B, P11, P16 and P21 PFAS analytical results

Selected monitoring wells located on-Base were sampled to measure PFAS concentrations in the central portion of the Base in the vicinity of Source Areas P9, P15A/B, P11, P16 and P21. These locations are summarised as:

New maximum PFOS+PFHxS concentrations were reported at monitoring locations within the P9 Source Area MW2148 (Q1) and MW2188 (Q1 adjacent to P9). New maximum PFOS+PFHxS concentrations were reported at monitoring locations within the P16 Source Area MW2120 (Q1) and MW2270 (Q3). All locations reported detections of PFOS+PFHxS above the laboratory LOR and all locations reported detections above the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07 µg/L) in dry season and wet season 2023 consistent with previous observations.

MW2202 (Q2) reported a spike in PFOS concentrations above the NEPM guidelines in July 2022, concentrations were confirmed to remain above the adopted guidelines in January and July 2023.

All concentrations were above the laboratory LOR in January/February and July 2023 for PFOA, with the exception of MW2201 (Q1) and MW2202 (Q2), consistent with historical observations. New maximum concentrations of PFOA were reported at MW2148 (Q1) during both January/February and July; new maximum concentrations of PFOA were reported at MW2120 (Q1) in July 2023. PFOA results exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) in January/February and July 2023 at all locations with the exception of MW2112 (Q1), MW2150 (Q1), MW2194 (Q1), MW2201 (Q1), MW2202 (Q2) and MW2270 (Q3), consistent with historical observations. New maximum PFOA concentrations were reported at monitoring locations within the P9 MW2148 (Q1) and P16 Source Area MW2120 (Q1), and MW2270 (Q3).

Analytical results are summarised in **Table 12**, sampled locations are depicted in **Figure 9** and PFOS+PFHxS trends are illustrated in **Figure 10 - Figure 12**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

- Q1: MW2112, MW2116, MW2120, MW2148, MW2149, MW2150, MW2188, MW2194, MW2197, MW2201, MW2203, MW2499
- Q2: MW2158, MW2189, MW2200, MW2202
- Q3: MW2270, MW2272
- Q4: MW2284.

Table 12 Source Areas P9, P11, P15A/B, P16 and P21 PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW2112 (Q1)	PFOS+PFHxS	**2.65**	**19.4**	**3.08**	**3.94**
	PFOA	0.05	0.45	0.05	0.07
MW2116 (Q1)	PFOS+PFHxS	**8,860**	**23,400**	**11,200**	**12,200**
	PFOA	**192**	**638**	**371**	**417**
MW2120 (Q1)	PFOS+PFHxS	**34.9**	**264**	**204**	**613**[1]
	PFOA	0.44	**3.2**	**6.21**	**23**[1]
MW2148 (Q1)	PFOS+PFHxS	**256**	**956**	**1,210**[1]	**1,380**[1]
	PFOA	**7.18**	**31.8**	**43.3**[1]	**53.3**[1]
MW2149 (Q1)	PFOS+PFHxS	**101**	**320**	**227**	**320**
	PFOA	**2.30**	**14**	**9.21**	**9.43**
	PFOS+PFHxS	**13.4**	**25**	**15.2**	**12.3**

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW2150 (Q1)	PFOA	0.12	0.18	0.11	0.08
MW2158 (Q2)	PFOS+PFHxS	**413**	**2,650**	**1,560**	**1,200**
	PFOA	**12.9**	**71.6**	**45.1**	**40.4**
MW2188 (Q1)	PFOS+PFHxS	**112**	**238**	**304**[1]	**298**
	PFOA	**3.23**	**8.5**	**5.76**	**5.98**
MW2189 (Q2)	PFOS+PFHxS	**51.3**	**500**	**420**	**409**
	PFOA	**1.15**	**11**	**8.2**	**8.67**
MW2194 (Q1)	PFOS+PFHxS	0.02	**5.07**	**1.27**	**0.98**
	PFOA	ND	0.11	0.02	0.02
MW2197 (Q1)	PFOS+PFHxS	**200**	**630**	**513**	**579**
	PFOA	**5.1**	**14.7**	**11.5**	**12.8**
MW2200 (Q2)	PFOS+PFHxS	**98.1**	**480**	**89**	**86.4**
	PFOA	**2.94**	**17**	**2.58**	**2.84**
MW2201 (Q1)	PFOS+PFHxS	**0.48**	**1.42**	**0.42**	**0.26**
	PFOA	ND	0.12	ND	ND
MW2202 (Q2)	PFOS+PFHxS	ND	**0.11**	0.07	**0.11**
	PFOA	ND	ND	ND	ND
MW2203 (Q1)	PFOS+PFHxS	**3,420**	**6,900**	**4,550**	**369**
	PFOA	**39.2**	**110**	**58.5**	**4.48**
MW2270 (Q3)	PFOS+PFHxS	**0.28**	**1.59**	**1.81**[1]	**1.3**
	PFOA	ND	0.06	0.05	0.04
MW2272 (Q3)	PFOS+PFHxS	**2.9**	**312**	**8.89**	**240**
	PFOA	0.15	**17.3**	**0.42**	**13.6**
MW2284 (Q4)	PFOS+PFHxS	0.06	**63.7**	**4.62**	**29.4**
	PFOA	ND	**3.5**	**0.21**	**1.62**
MW2499 (Q1)	PFOS+PFHxS	**41.2**	**2,680**	**1,620**	**1,180**
	PFOA	**0.91**	**16.1**	**11.2**	**9.78**

Bold denotes exceedance of PFAS NEMP 2.0 (2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

[1]New maximum value

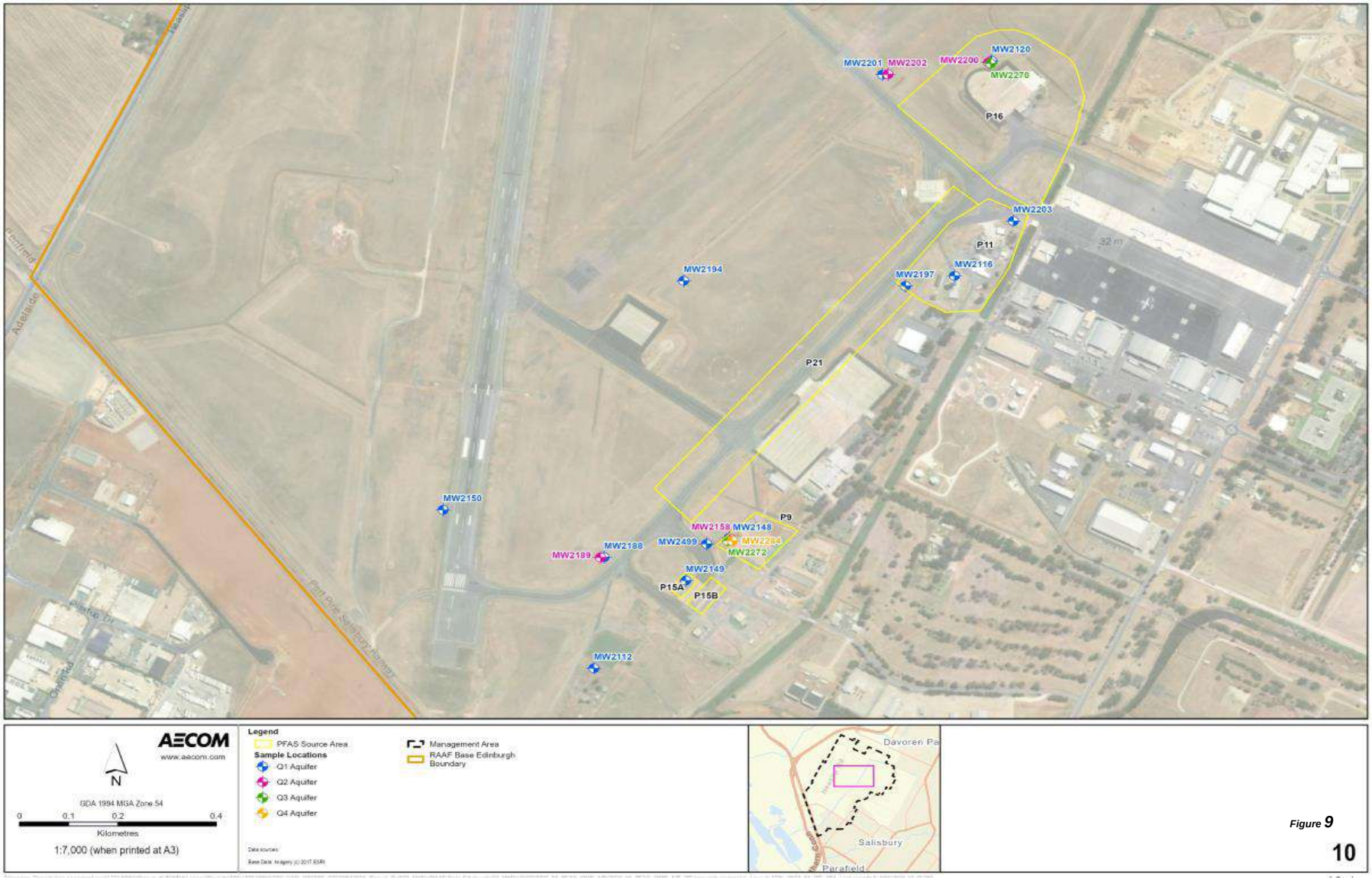


Figure 9 Sampled locations in P9, P11, P15A/B, P16 and P21

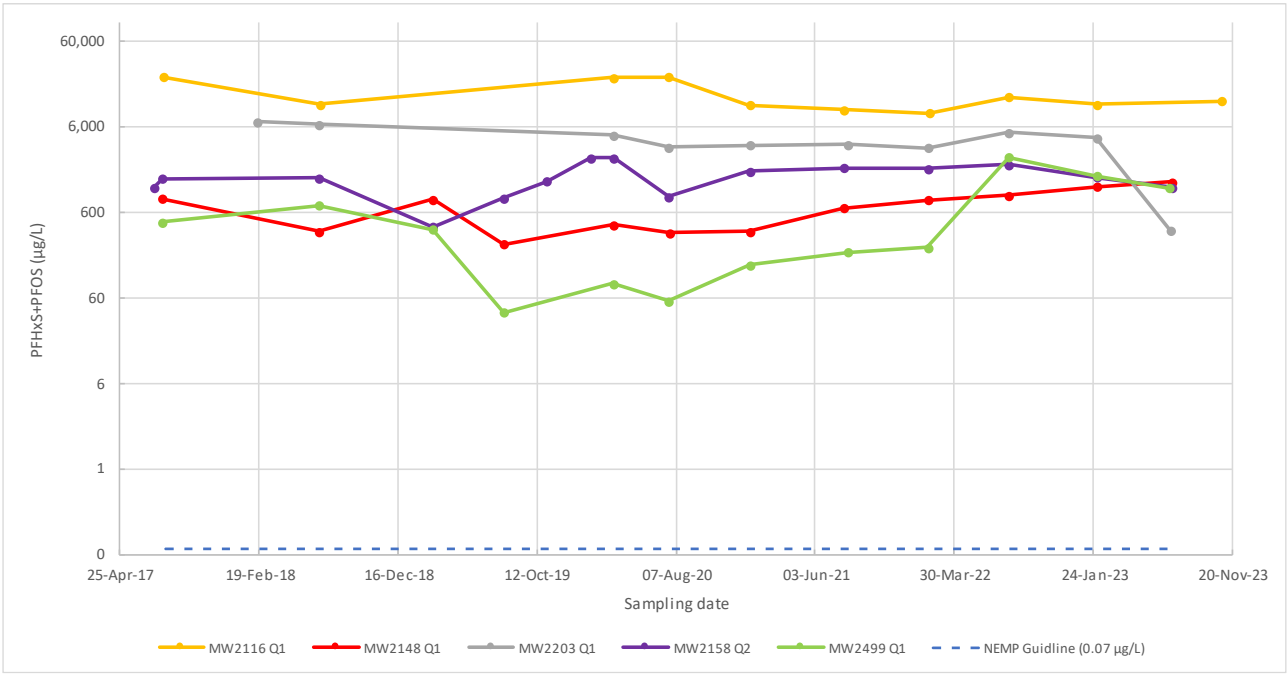


Figure 10 Q1 monitoring wells PFOS+PFHxS concentration trends at Source Areas P9, P11, P15A/B and P21 (historically above 1000 µg/L)

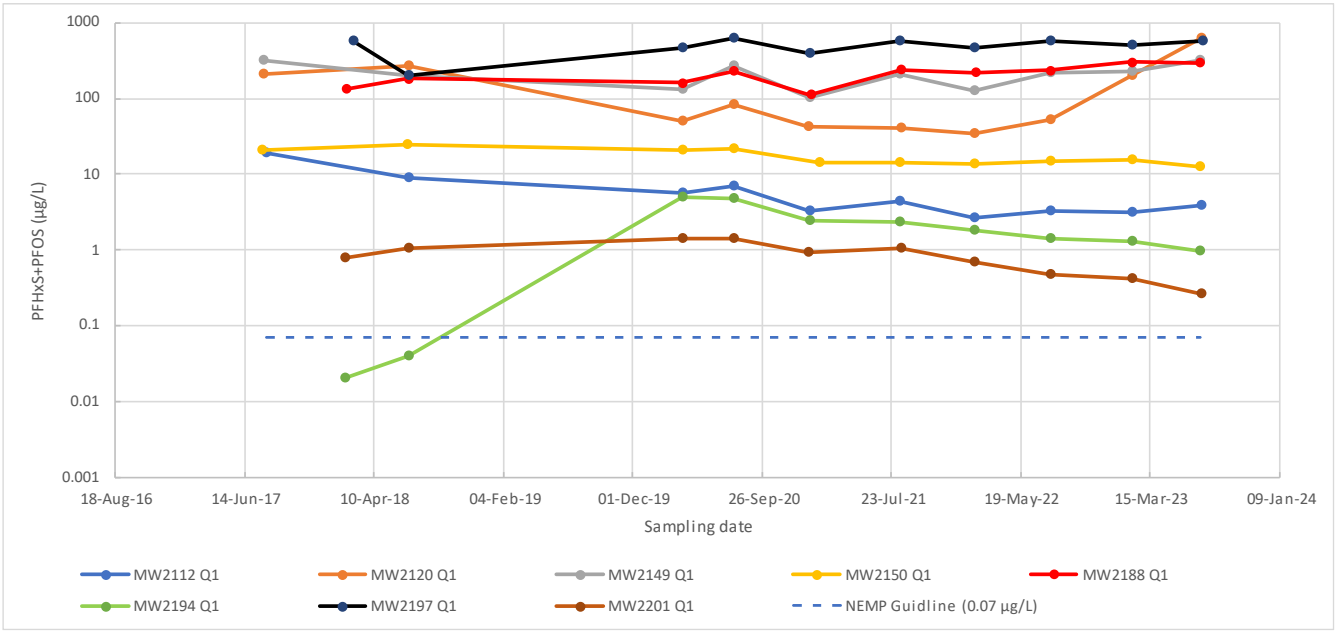


Figure 11 Q1 monitoring wells PFOS+PFHxS concentration trends at Source Areas P9, P11, P15A/B and P21 (historically below 1000 µg/L)

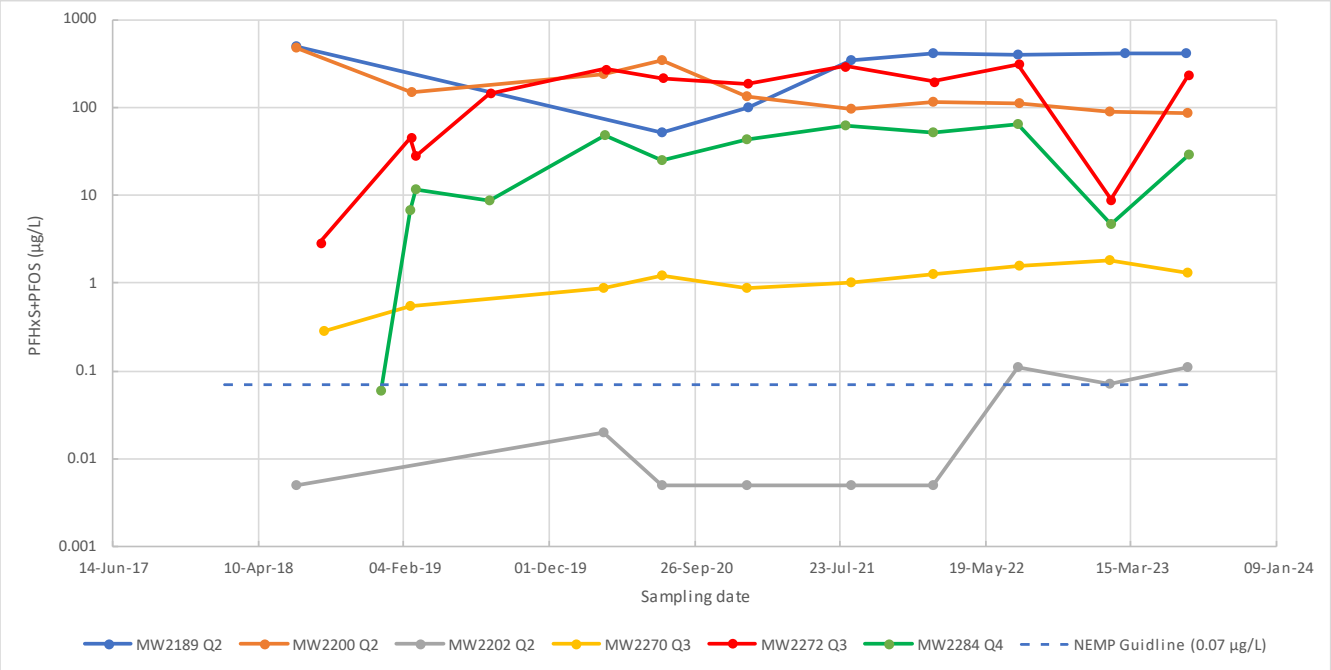


Figure 12 Q2, Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at Source Areas P9 and P15A/B, P11, P16 and P21 (below 1000 µg/L)

Note – Care should be taken when interpreting PFAS concentration trend graphs that include wells that vary in the number of times they have been sampled, the overall duration of monitoring, or the aquifer in which they are installed.

7.1.9 Source Areas P1, P3A, P3B and P27 PFAS analytical results

Selected monitoring wells located on-Base were sampled to measure PFAS concentrations in the vicinity of Source Areas P1, P3A, P3B and P27. Sampled locations include:

- Q1: MW2528, MW2490, MW2114, MW2130, MW2131 and MW2193
- Q2: MW2157, MW2209, MW2210.

New maximum concentrations of PFOS+PFHxS concentrations were reported at MW2114 (Q1) in January/February then again in July 2023, and at MW2209 (Q2) in July 2023 for PFOS and PFOS+PFHxS. All concentrations of PFOS+PFHxS were reported above the laboratory LOR in the 2023 monitoring period, and all concentrations exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guidelines (0.07 µg/L) with the exception of MW2209 (Q2) in dry season 2023.

New maximum concentrations of PFOA concentrations were reported at MW2114 (Q1) in January/ February and again in July 2023. All locations reported concentrations of PFOA above the laboratory LOR in January/February and July, with the exception of MW2209 (Q2). PFOA results exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) at all locations, with the exception of MW2157 (Q2) and MW209 (Q2).

Analytical results are summarised in **Table 13,** sampled locations are depicted in **Figure 13** and PFOS+PFHxS trends are illustrated in **Figure 14** and **Figure 15**.

Table 13 Source Areas P1, P3A/B and P27 PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW2114 (Q1)	PFOS+PFHxS	**12.4**	**213**	**306**[1]	**834**[1]
	PFOA	**0.68**	**12.2**	**21.1**[1]	**56.1**[1]
MW2130 (Q1)	PFOS+PFHxS	**276**	**1,160**	**271**	**160**
	PFOA	**8.45**	**44.1**	**9.32**	**5.99**
MW2131 (Q1)	PFOS+PFHxS	**118**	**594**	**243**	**203**
	PFOA	**4.5**	**11.7**	**3.98**	**4.73**
MW2157 (Q2)	PFOS+PFHxS	**12.3**	**24.5**	**14.4**	**16.3**
	PFOA	0.27	0.38	0.31	0.31
MW2193 (Q1)	PFOS+PFHxS	**60**	**105**	**77.7**	**78.8**
	PFOA	**1.39**	**2.38**	**1.42**	**1.6**
MW2209 (Q2)	PFOS+PFHxS	0.03	**0.46**	0.2	**0.7**[1]
	PFOA	ND	ND	ND	ND
MW2210 (Q2)	PFOS+PFHxS	**107**	**250**	**105**	**107**
	PFOA	**2.7**	**5.91**	**3.12**	**3.77**
MW2490 (Q1)	PFOS+PFHxS	**2,900**	**9,460**	**503**	**391**
	PFOA	**62**	**220**	**12.5**	**10.4**
MW2528 (Q1)	PFOS+PFHxS	**47.7**	**78**	**37.5**	**38.4**
	PFOA	**1.65**	**2.52**	**1.26**	**1.52**

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA. 2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

[1]New maximum value

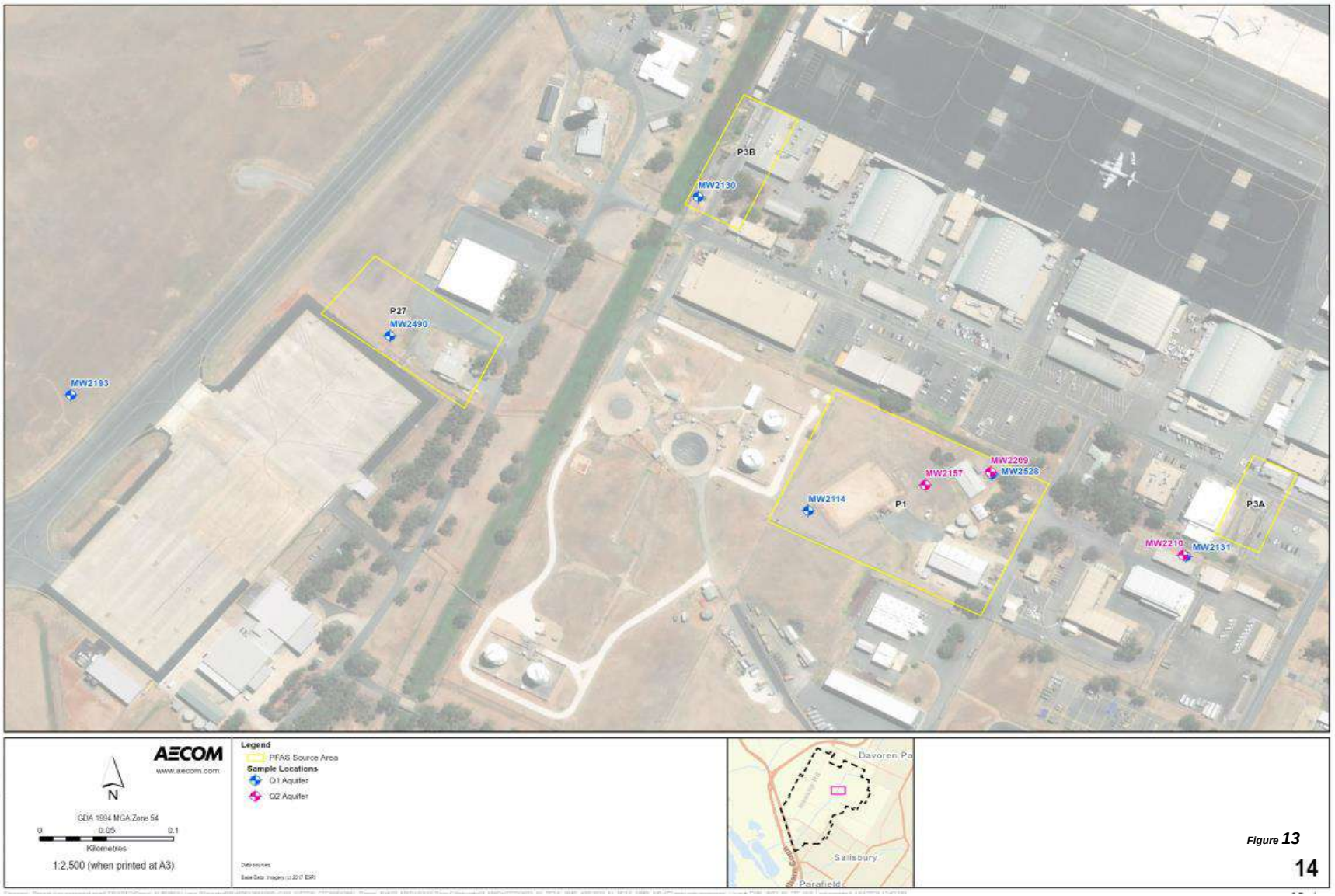


Figure 13 P1, P3A/B and P27 sampled locations

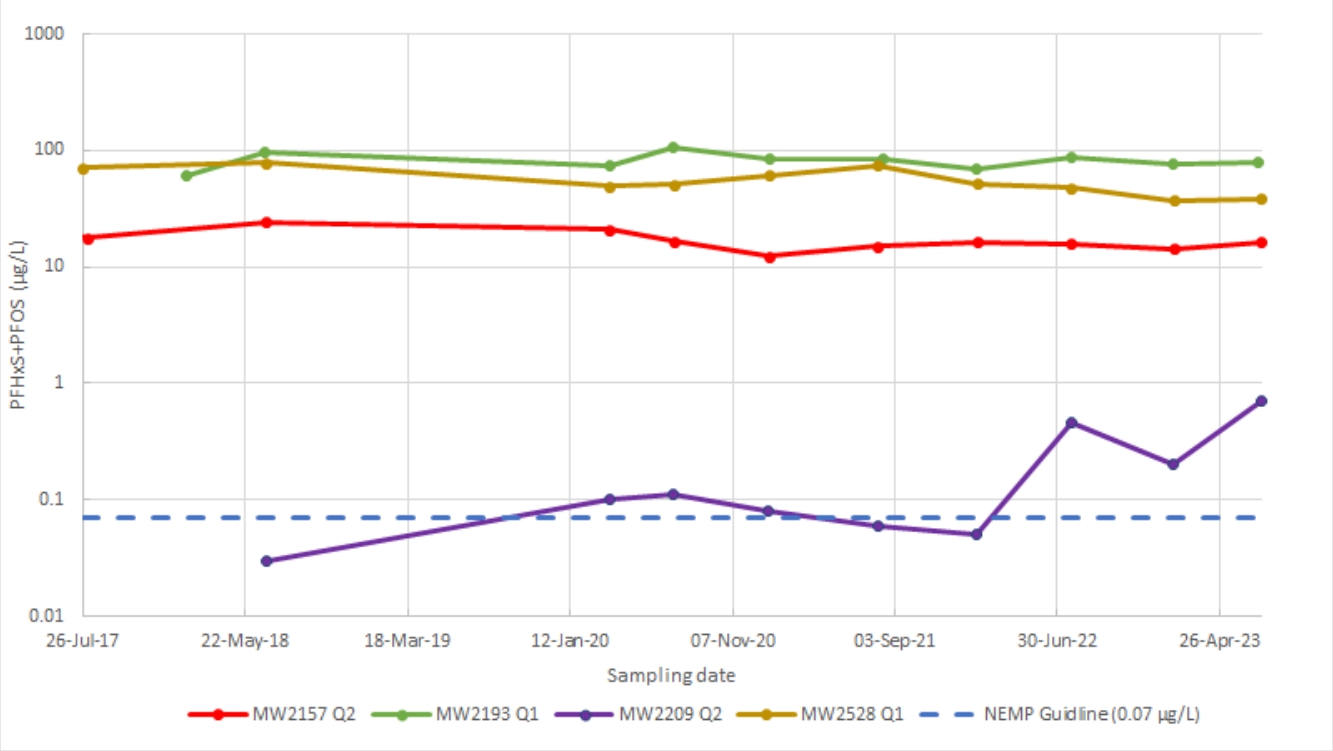


Figure 14 PFOS+PFHxS concentration trends at Source Area P1, P3A/B and P27 (below 200 µg/L)

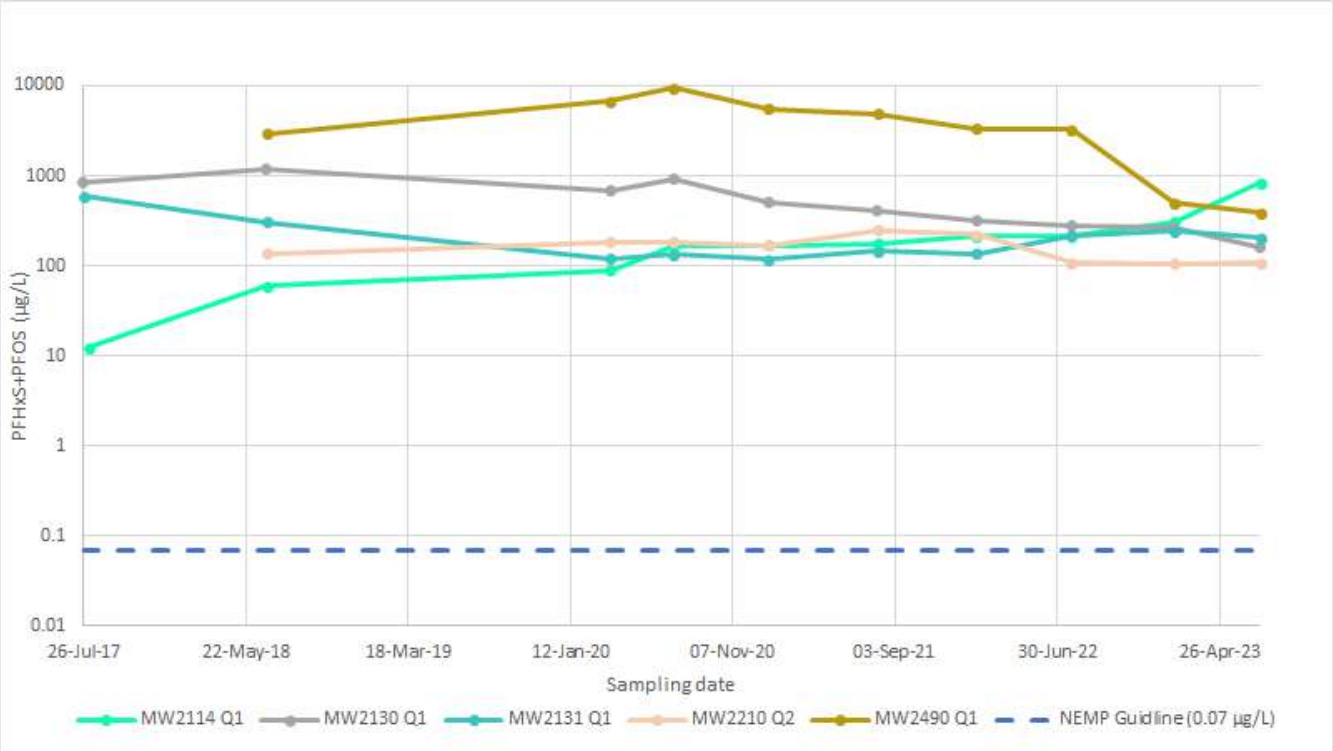


Figure 15 PFOS+PFHxS concentration trends at Source Area P1, P3A/B and P27 (above 200 µg/L)

Note: For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (0.005 µg/L).

7.1.10 Southern, western and northern boundary PFAS analytical results

Twenty-one monitoring wells on-Base and one off-Base location were sampled to measure PFAS conditions located at the Base boundaries. These locations are summarised as:

- Q1 monitoring wells: MW2129, MW2137, MW2139, MW2166, MW2169, MW2172, MW2175, MW2177, MW2180, MW2182, MW2184, MW2501, MW4013 (off-Base)
- Q2 monitoring wells: MW2145, MW2173, MW2176, MW2183, MW2185
- Q3 monitoring wells: MW2275, MW2281
- Q4 monitoring wells: MW2285, MW2286.

All locations reported concentrations of PFOS+PFHxS above the laboratory LOR in both monitoring events, except for MW2166 (Q1) along the northern boundary near the Northern Runway Extension and MW2176 (Q2) along the southern portion of the western boundary, which were reported below the LOR in both the dry season and wet season events. Concentrations of PFOS+PFHxS exceeded the NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07 µg/L) at all locations with the exception of MW2166 (Q1) and MW2176 (Q2), mentioned above as reporting below the laboratory LOR, and MW2173 (Q2), along the western boundary, during the wet season event.

Consistent with results from 2022, concentrations of PFOA were reported below the laboratory LOR during the January/February monitoring events at 10 of the 22 sampled locations and 9 of the 22 sampled locations during the July monitoring event.

New maximum PFOS+PFHxS concentrations were reported at MW2182 along the southern boundary and MW2173 along western boundary during January/February sampling event. New maximum PFOS+PFHxS concentrations were reported at MW2281 and MW2183 along the southern boundary and MW2175 along the western boundary during July sampling event. Each well mentioned above has cross and down hydraulic delineation.

Analytical results are summarised in **Table 14**, sampled locations are depicted in **Figure 16** and PFOS+PFHxS trends are illustrated in **Figure 17-20**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 14 Southern, western and northern boundary PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		OMP Monitoring	
		Min	Max	January/February 2023	July 2023
MW2129 (Q1)	PFOS+PFHxS	**9.51**	**98.3**	**25.2**	**33.3**
	PFOA	0.43	**3.82**	**0.95**	**1.45**
MW2137 (Q1)	PFOS+PFHxS	**11.1**	**38.8**	**22.6**	**25.2**
	PFOA	0.2	**0.56**	0.34	0.32
MW2139 (Q1)	PFOS+PFHxS	**0.13**	**0.44**	**0.15**	**0.15**
	PFOA	ND	ND	ND	ND
MW2145 (Q2)	PFOS+PFHxS	**1.45**	**2.45**	**1.51**	**1.49**
	PFOA	0.02	0.05	0.03	0.03
MW2166 (Q1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW2169 (Q1)	PFOS+PFHxS	**0.39**	**0.67**	**0.53**	**0.6**
	PFOA	ND	ND	ND	ND
MW2172 (Q1)	PFOS+PFHxS	0.07	**0.19**	**0.17**	**0.12**
	PFOA	ND	ND	ND	ND

Well ID	Analyte	Historical range 2017-2022		OMP Monitoring	
		Min	Max	January/February 2023	July 2023
MW2173 (Q2)	PFOS+PFHxS	0.02	**0.08**	**0.11**[1]	0.02
	PFOA	ND	ND	ND	ND
MW2175 (Q1)	PFOS+PFHxS	**0.27**	**0.62**	**0.51**	**0.71**[1]
	PFOA	ND	ND	ND	0.01
MW2176 (Q2)	PFOS+PFHxS	ND	0.02	ND	ND
	PFOA	ND	ND	ND	ND
MW2177 (Q1)	PFOS+PFHxS	**5.99**	**11.3**	**6.52**	**2.29**
	PFOA	0.15	0.25	0.11	0.04
MW2180 (Q1)	PFOS+PFHxS	**78.3**	**234**	**81.4**	**70.3**
	PFOA	**4.64**	**13.5**	**5.24**	**5.7**
MW2182 (Q1)	PFOS+PFHxS	0.06	**0.20**	**0.29**[1]	**0.09**
	PFOA	ND	ND	ND	ND
MW2183 (Q2)	PFOS+PFHxS	**2**	**5.98**	**5.59**	**6.56**[1]
	PFOA	0.03	0.11	0.1	0.13[1]
MW2184 (Q1)	PFOS+PFHxS	0.04	**0.91**	**0.22**	**0.08**
	PFOA	ND	0.01	ND	ND
MW2185 (Q2)	PFOS+PFHxS	**3.07**	**12.1**	**12.3**[1]	**13**[1]
	PFOA	0.04	0.22	0.21	0.22
MW2275 (Q3)	PFOS+PFHxS	**0.12**	**1.78**	**1.86**[1]	**1.41**
	PFOA	ND	0.19	0.13	0.11
MW2281 (Q3)	PFOS+PFHxS	**1.36**	**3.25**	**2.59**	**5.75**[1]
	PFOA	0.02	0.09	0.04	0.11[1]
MW2285 (Q4)	PFOS+PFHxS	ND	**1.15**	**0.28**	**0.19**
	PFOA	ND	0.02	ND	ND
MW2286 (Q4)	PFOS+PFHxS	**0.08**	**2.05**	**0.7**	**0.61**
	PFOA	ND	0.04	0.01	0.01
MW2501 (Q1)	PFOS+PFHxS	**0.21**	**0.81**	**0.24**	**0.23**
	PFOA	0.01	0.03	0.01	0.02
MW4013 (Q1)	PFOS+PFHxS	**5.95**	**17.6**	**4.94**	**6.33**
	PFOA	0.11	0.24	0.1	0.2

Bold denotes exceedance of PFAS NEMP 2.0 (2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

[1]New maximum value

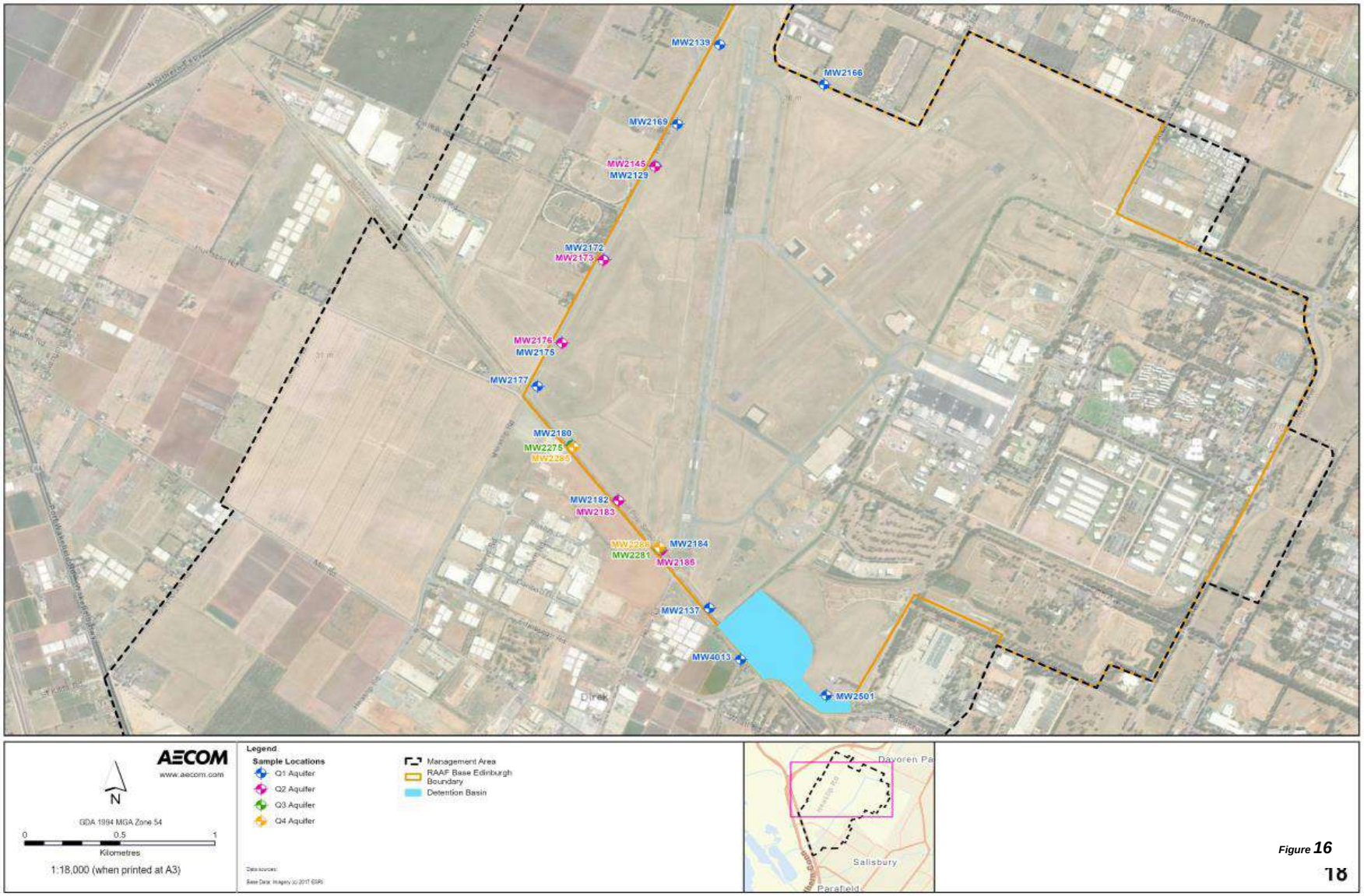


Figure 16 Southern, western, and northern boundary sampled locations.

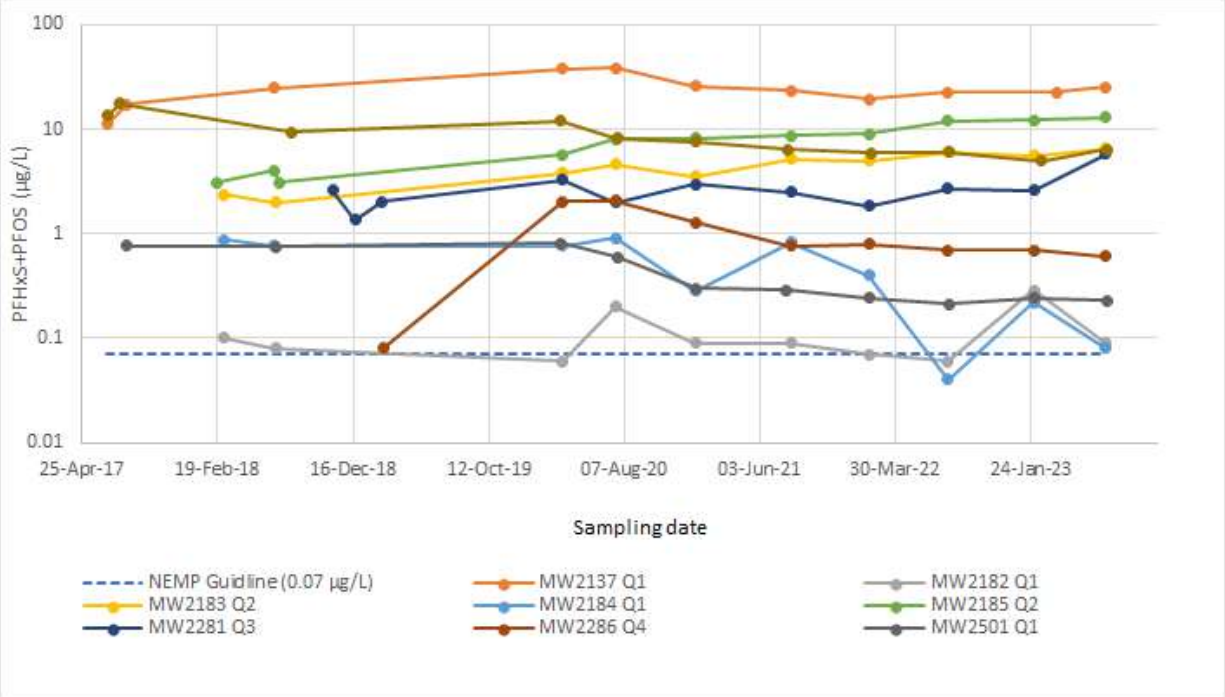


Figure 17 Southern boundary PFOS+PFHxS concentration trends

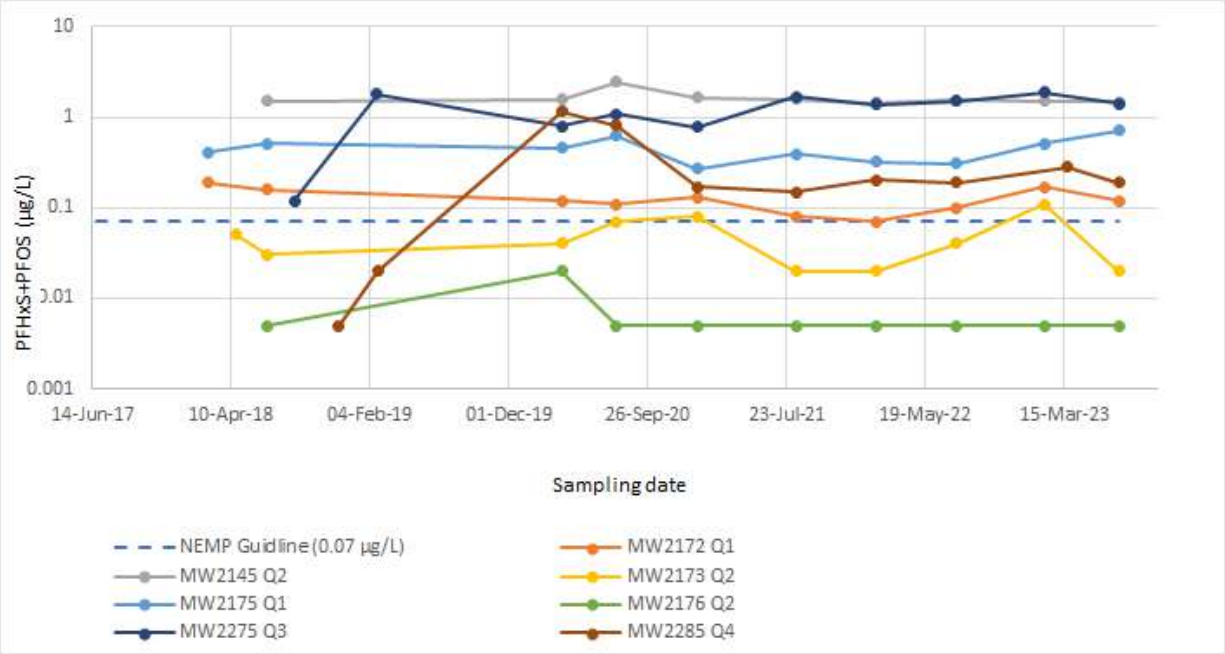


Figure 18 Western boundary PFOS+PFHxS concentration trends (below 3 µg/L)

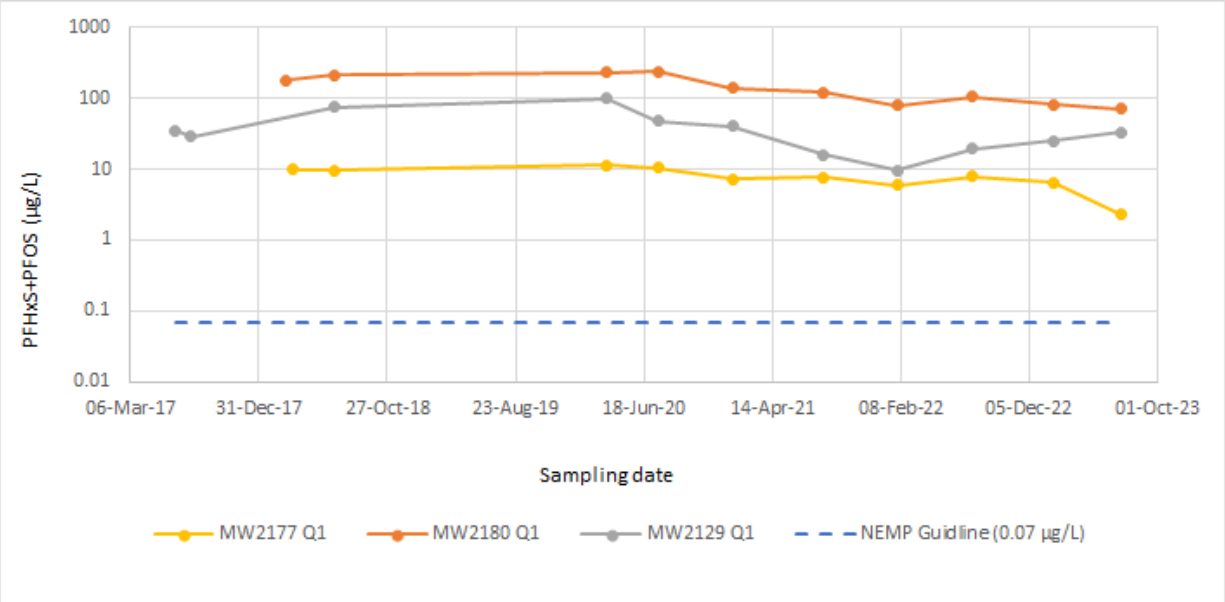


Figure 19 Western boundary PFOS+PFHxS concentration trends (above 3 µg/L)

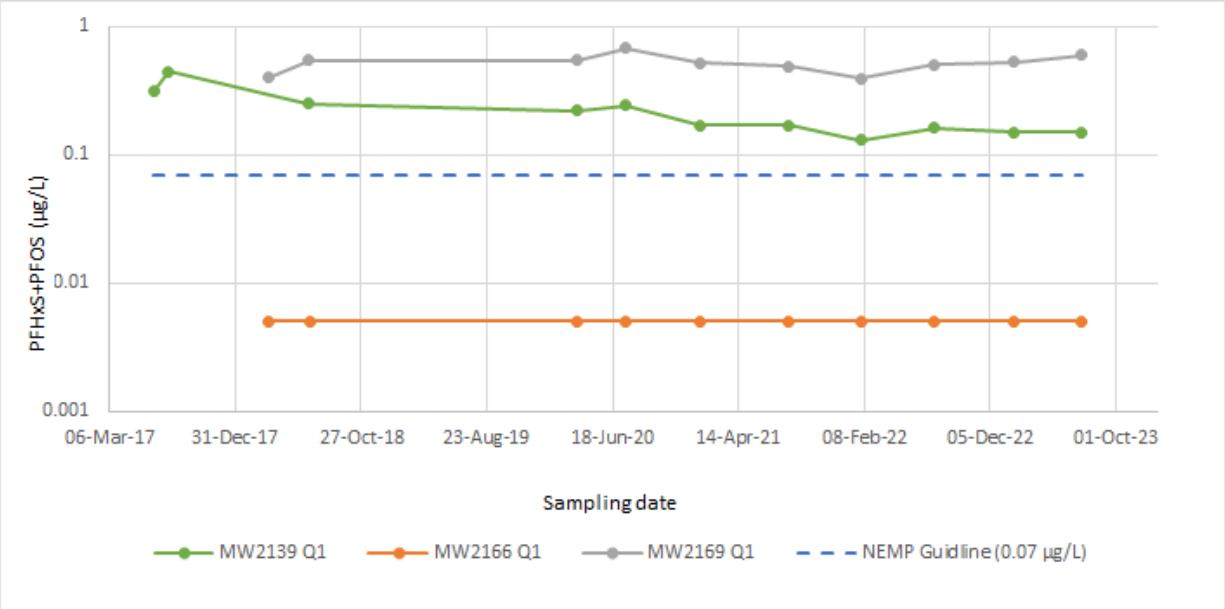


Figure 20 Northern boundary PFOS+PFHxS concentration trends

7.1.11 Helps Road Drain PFAS analytical results

Eleven off-Base monitoring wells were sampled to measure PFAS conditions around the Helps Road Drain. These locations are summarised as:

- Q1 monitoring wells: MW4001, MW4003, MW4015 and MW4053
- Q2 monitoring wells: MW4035, MW4045 and MW4048
- Q3 monitoring wells: MW4068, MW4069 and MW4070
- Q4 monitoring wells: MW4075.

Concentrations of PFOS+PFHxS were reported above the laboratory LOR at all locations in 2023 with the exception of MW4070 (Q3) in both monitoring rounds. The PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07 µg/L) guideline for PFOS+PFHxS was exceeded at all locations, with the exception of MW4070 (Q3) in both 2023 monitoring events.

Concentrations of PFOA were reported above the laboratory LOR at all locations during the 2023 monitoring event with the exception of MW4045 (Q2) and MW4070 (Q3) in both monitoring rounds. PFOA results did not exceed the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) at any location during the 2023 monitoring rounds.

New maximum values for PFOS+PFHxS and PFOA were reported in January/February and again in July 2023 at MW4075 (Q4). These results continue an overall upward trend apparent in this well since 2021.

With the exception of MW4075 (Q4) it is noted that concentrations of PFOS+PFHxS and PFOA were reported at consistent or lower concentrations in 2023 in comparison to those reported in 2022 for the respective dry season and wet season monitoring rounds.

Results for monitoring location MW4069 (Q3) are discussed further in **Section 7.1.13** as this location is of relevance not just to the Helps Road Drain environs.

Analytical results are summarised in **Table 15**, sampled locations are depicted in **Figure 21** and PFOS+PFHxS trends are illustrated in **Figures 22-24**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (I.e. 0. 005 µg/L).

Table 15 Helps Road Drain PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4001 (Q1)	PFOS+PFHxS	**1.06**	**4.5**	**1.18**	**1.25**
	PFOA	0.04	0.13	0.04	0.04
MW4003 (Q1)	PFOS+PFHxS	**10.7**	**17.8**	**12.3**	**13.2**
	PFOA	0.16	0.28	0.21	0.22
MW4015 (Q1)	PFOS+PFHxS	**9.68**	**20.2**	**8.17**	**9.91**
	PFOA	0.14	0.32	0.1	0.12
MW4035 (Q2)	PFOS+PFHxS	**13**	**44**	**7.95**	**3.13**
	PFOA	0.19	0.50	0.11	0.04
MW4045 (Q2)	PFOS+PFHxS	**0.29**	**1.55**	**0.26**	**0.21**
	PFOA	ND	0.02	ND	ND
MW4048 (Q2)	PFOS+PFHxS	**0.92**	**2.17**	**0.79**	**0.8**
	PFOA	0.04	0.07	0.03	0.03
MW4053 (Q1)	PFOS+PFHxS	**0.71**	**2.15**	**1.31**	**1.06**
	PFOA	0.02	0.04	0.03	0.02

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4068 (Q3)	PFOS+PFHxS	ND	**22.5**	**7.83**	**6.62**
	PFOA	ND	0.34	0.12	0.1
MW4069 (Q3)	PFOS+PFHxS	**2.07**	**4.41**	**1.47**	**1.96**
	PFOA	0.05	0.11	0.03	0.06
MW4070 (Q3)	PFOS+PFHxS	ND	0.07	ND	ND
	PFOA	ND	ND	ND	ND
MW4075 (Q4)	PFOS+PFHxS	ND	**0.45**	**5.63**[1]	**6.82**[1]
	PFOA	ND	0.02	0.22	0.26

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)
ND = Not detected above laboratory limits of reporting
[1]New maximum value

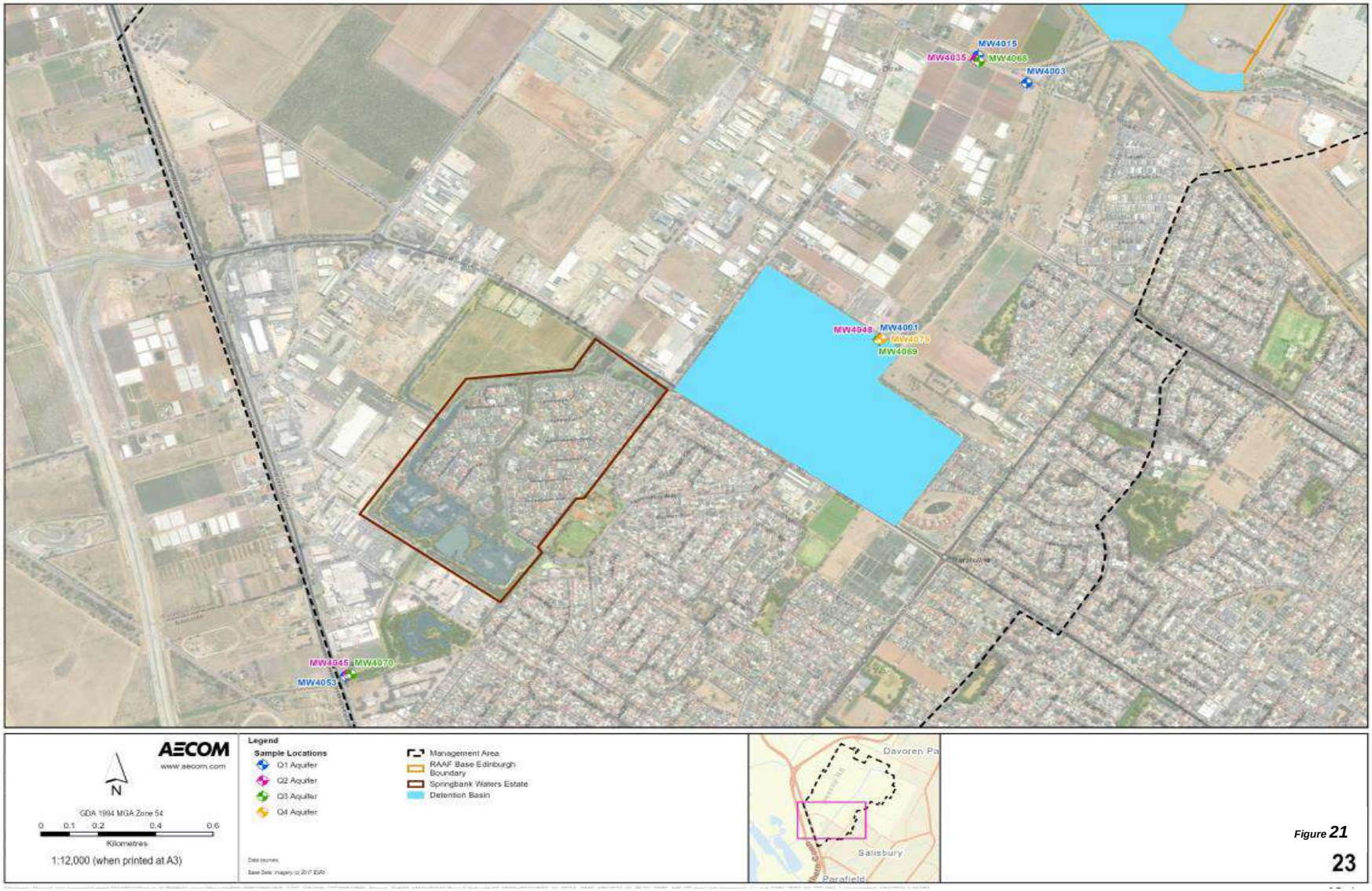


Figure 21 Helps Road Drain sampled location

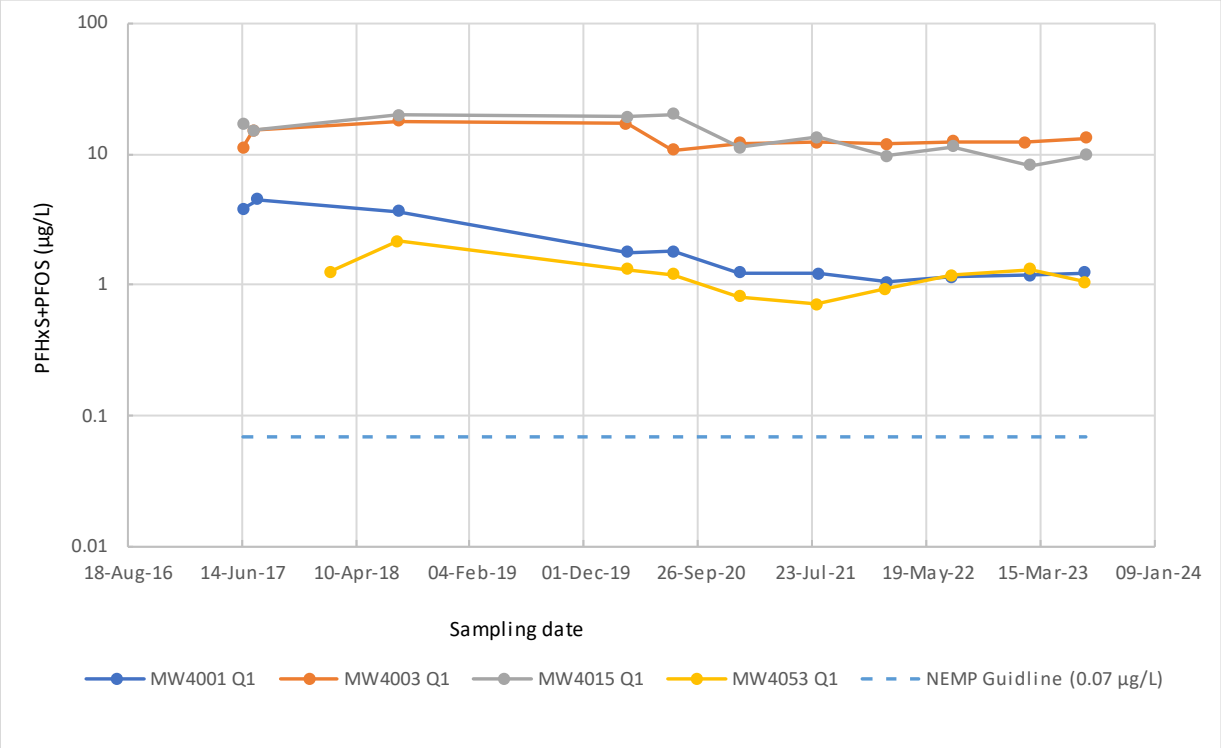


Figure 22 Q1 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain

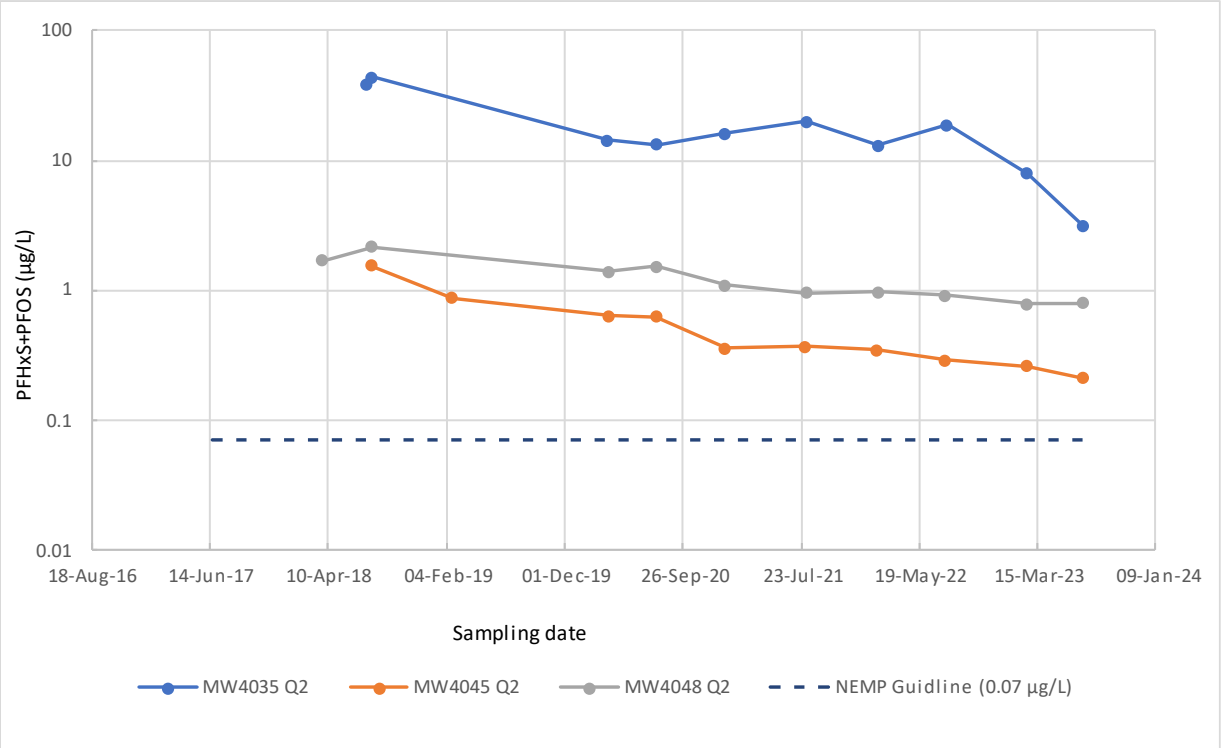


Figure 23 Q2 Monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain

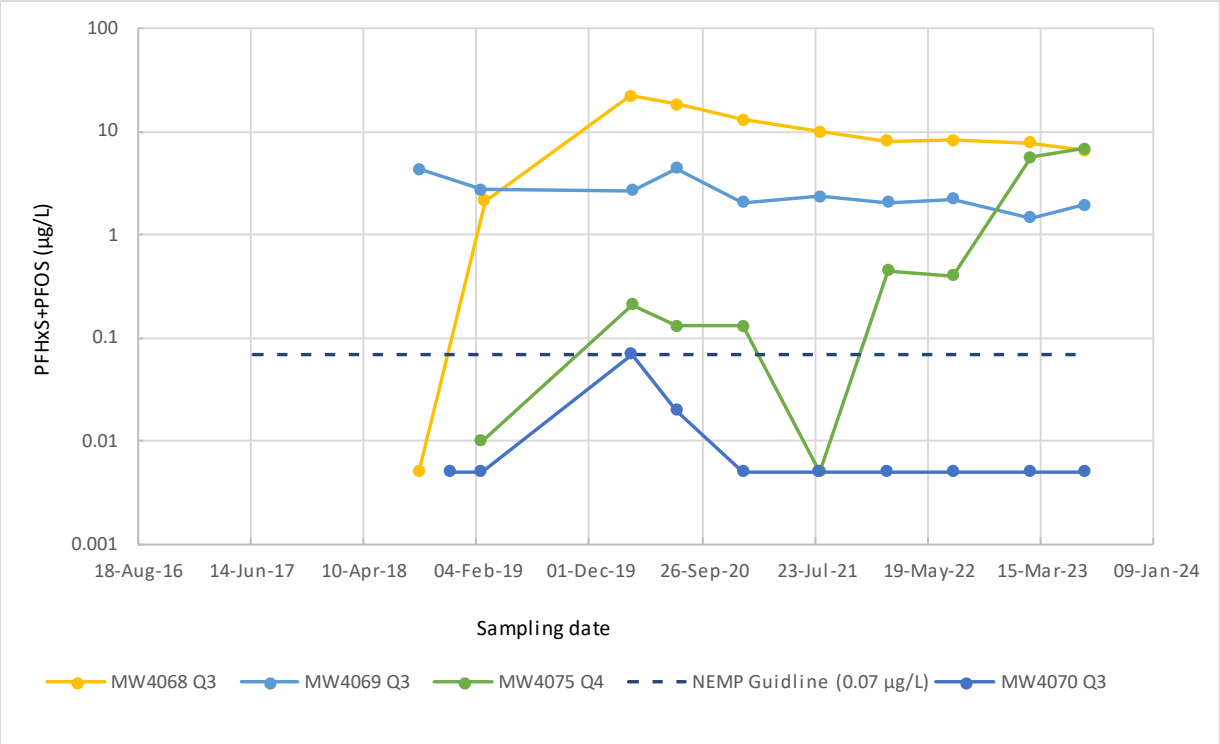


Figure 24 Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain

7.1.12 Off-Base lateral extent of PFAS analytical results

Twenty off-Base monitoring wells were sampled to investigate the lateral extent of PFAS in groundwater off-Base. These locations are summarised as:

- Q1 monitoring wells: MW4009, MW4020, MW4023, MW4027, MW4037, MW4041, MW4052, MW4055, MW4059, MW4060, MW4061, MW4064, MW4072 and MW4219
- Q2 monitoring wells: MW4021, MW4022, MW4024, MW4076 and MW4077
- Q3 monitoring wells: MW4071.

Concentrations of PFOS+PFHxS were reported above the laboratory LOR at MW4023 (Q1), MW4024 (Q2), MW4071 (Q3), MW4072 (Q1), MW4076 (Q2) and MW4219 (Q1), all other locations were reported below the laboratory LOR. The PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07 µg/L) guideline for PFOS+PFHxS was exceeded at MW4023 (Q1), MW4024 (Q2) and MW4219 (Q1) in both the 2023 monitoring events. These results are consistent with historical exceedances of the adopted criteria.

Concentrations of PFOA were reported above the laboratory LOR at two locations: MW4023 (Q1) and MW4024 (Q2) in both 2023 monitoring rounds; all other locations were reported below the laboratory LOR. PFOA results did not exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56 µg/L) at any location in the 2023 monitoring events.

Analytical results are summarised in **Table 16** and sampled locations are depicted in **Figure 25**. PFOS+PFHxS trends are illustrated in **Figure 26;** for graphical purposes only results historically or currently above LOR are presented.

Table 16 Lateral extent of PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2018-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4009 (Q1)	PFOS+PFHxS	ND	**0.11**	ND	ND
	PFOA	ND	ND	ND	ND
MW4020 (Q1)	PFOS+PFHxS	ND	0.03	ND	ND
	PFOA	ND	ND	ND	ND
MW4021 (Q2)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4022 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4023 (Q1)	PFOS+PFHxS	**1.56**	**2.55**	**1.31**	**1.24**
	PFOA	0.03	0.06	0.03	0.02
MW4024 (Q2)	PFOS+PFHxS	**0.90**	**1.53**	**1.01**	**0.8**
	PFOA	0.02	0.03	0.02	0.02
MW4027 (Q1)	PFOS+PFHxS	ND	**0.43**	ND	ND
	PFOA	ND	ND	ND	ND
MW4037 (Q1)	PFOS+PFHxS	ND	0.02	ND	ND
	PFOA	ND	ND	ND	ND
MW4041 (Q1)	PFOS+PFHxS	ND	0.06	ND	ND
	PFOA	ND	ND	ND	ND

Well ID	Analyte	Historical range 2018-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4052 (Q1)	PFOS+PFHxS	0.01	**0.09**	ND	ND
	PFOA	ND	0.02	ND	ND
MW4055 (Q1)	PFOS+PFHxS	ND	**0.77**	ND	ND
	PFOA	ND	ND	ND	ND
MW4059 (Q1)	PFOS+PFHxS	ND	0.04	ND	ND
	PFOA	ND	ND	ND	ND
MW4060 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4061 (Q1)	PFOS+PFHxS	ND	0.06	ND	ND
	PFOA	ND	0.01	ND	ND
MW4064 (Q1)	PFOS+PFHxS	ND	0.04	ND	ND
	PFOA	ND	ND	ND	ND
MW4071 (Q3)	PFOS+PFHxS	ND	0.02	0.02	0.02
	PFOA	ND	ND	ND	ND
MW4072 (Q1)	PFOS+PFHxS	ND	0.02	0.02	0.03
	PFOA	ND	ND	ND	ND
MW4076 (Q2)	PFOS+PFHxS	0.02	**0.29**	0.04	0.03
	PFOA	ND	0.01	ND	ND
MW4077 (Q2)	PFOS+PFHxS	ND	0.05	ND	ND
	PFOA	ND	ND	ND	ND
MW4219 (Q1)	PFOS+PFHxS	**0.34**	**0.90**	**0.36**	**0.32**
	PFOA	ND	0.03	ND	ND

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)
ND = Not detected above laboratory limits of reporting
[1]New maximum value

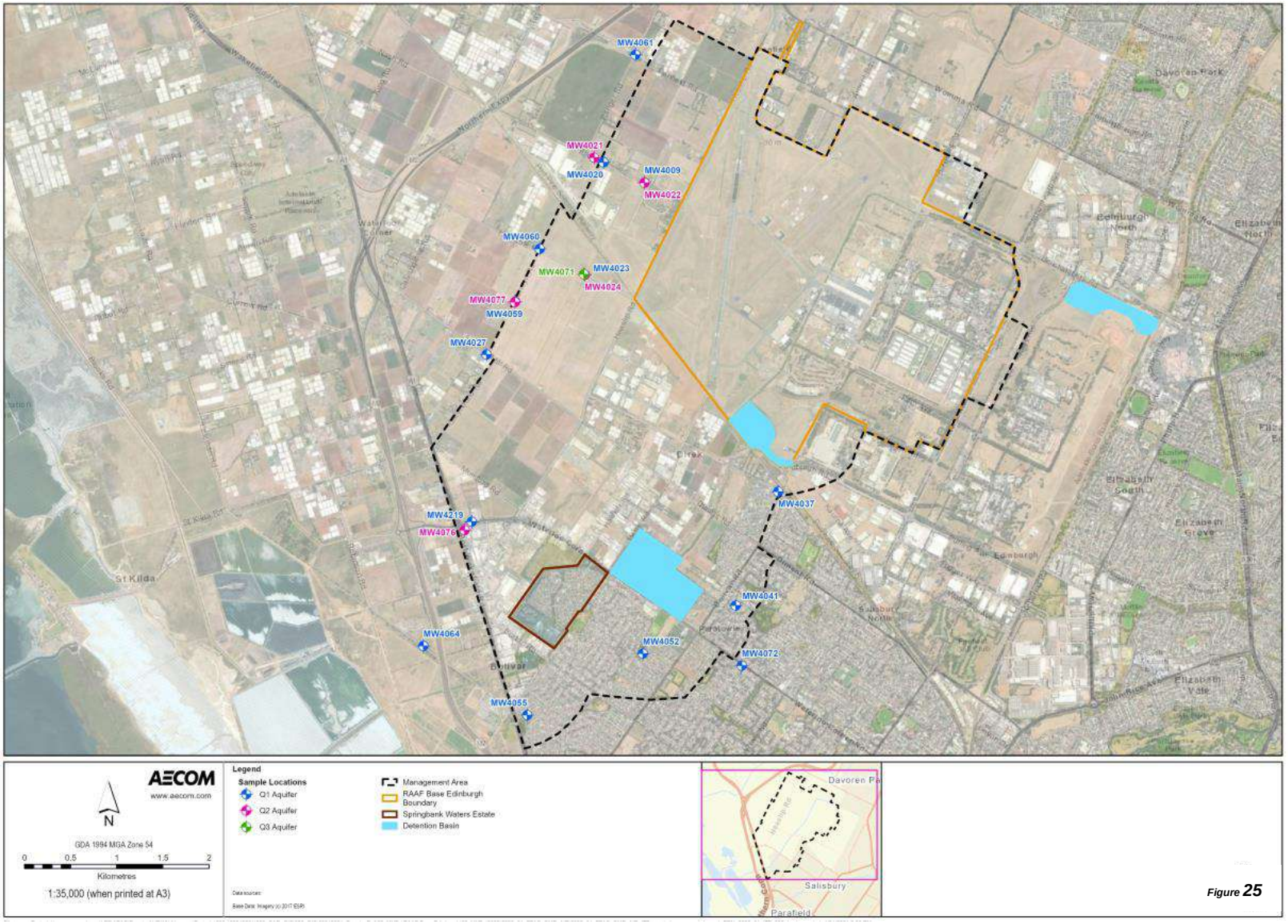


Figure 25 Off-Base lateral extent sampled locations

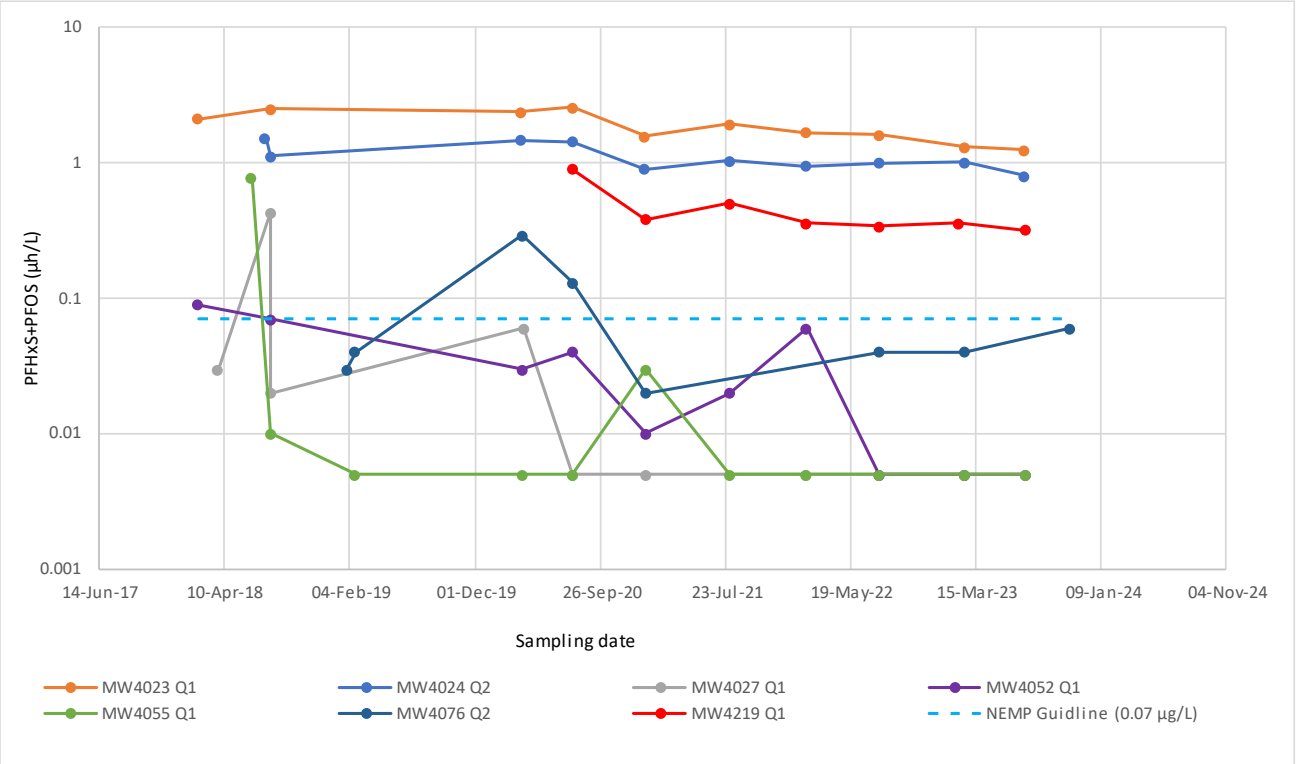


Figure 26 Monitoring locations characterising the lateral extent of PFOS+PFHxS concentration trends

Note: A value of half the LOR (0.005 µg/L) has been used where concentrations were reported below the LOR for graphical purposes.

7.1.13 PFAS analytical results for monitoring wells in proximity to former licensed Quaternary groundwater users and private bore

Selected monitoring wells off-Base are located to measure PFAS concentrations with proximity to former licensed Quaternary groundwater users, including sampling at one private property bore. It is noted that the SA EPA's establishment of the GPA means former groundwater extraction licences for wells within the scope of the GPA are no longer valid. A summary of the well locations follows:

- Q1 monitoring wells: MW4057 and MW4058
- Q2 monitoring wells: MW4065 and MW4066
- Q3 monitoring wells: MW4069, MW4073 and MW4074
- Q4 monitoring wells: MW4078 and MW4079
- The private property bore: MW4223 (Q2).

PFOS+PFHxS concentrations were reported above the LOR in 6 of the 10 locations sampled: MW4057 (Q1), MW4066 (Q2), MW4069 (Q3), MW4073 (Q3), MW4074 (Q3) and MW4079 (Q4), in both the dry season and wet season 2023 monitoring rounds. Concentrations of PFOS+PFHxS at all locations that were reported above the laboratory LOR also exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07 µg/L) guideline.

A new maximum PFOS+PFHxS concentration was reported at MW4074 (Q3) in July 2023, albeit only a marginal increase over the concentrations reported in July 2022 and February 2023. New maximum PFOS+PFHxS concentrations were reported at MW4057 (Q1) during January/February 2023 and July 2023 events.

Concentrations of PFOA were reported above the laboratory LOR at all locations with the exception of MW4058 (Q1), MW4065 (Q2), MW4074 (Q3) and MW4078 (Q4) in both 2023 monitoring events. All concentrations of PFOA were below the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.56 µg/L) guideline.

All concentrations at private bore MW4223 (Q2) were below the laboratory LOR in both 2023 monitoring events, consistent with historical results, with no concentrations above the laboratory LOR reported since monitoring commenced in March 2020.

Analytical results are summarised in **Table 17** Sampled locations are depicted in **Figure 27,** and PFOS+PFHxS trends are illustrated in **Figure 28** (note linear vertical axis) and **Figure 29** (logarithmic vertical axis). For graphical purposes only results historically or currently above LOR are presented.

Table 17 Proximity to identified licenced groundwater users and private bore PFAS summary (µg/L)

Well ID	Analyte	Historical range 2018-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4057 (Q1)	PFOS+PFHxS	**0.10**	**0.36**	**0.37**[1]	**0.43**[1]
	PFOA	0.01	0.05	0.04	0.06
MW4058 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4065 (Q2)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW4066 (Q2)	PFOS+PFHxS	**0.19**	**0.42**	**0.19**	**0.18**
	PFOA	0.01	0.02	0.01	0.01
MW4069 (Q3)	PFOS+PFHxS	**2.07**	**4.41**	**1.47**	**1.96**
	PFOA	0.05	0.11	0.03	0.06

Well ID	Analyte	Historical range 2018-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4073 (Q3)	PFOS+PFHxS	**0.29**	**0.78**	**0.28**	**0.26**
	PFOA	0.03	0.12	0.03	0.02
MW4074 (Q3)	PFOS+PFHxS	ND	**0.15**	**0.15**	**0.16**[1]
	PFOA	ND	ND	ND	ND
MW4078 (Q4)	PFOS+PFHxS	ND	0.06	ND	ND
	PFOA	ND	ND	ND	ND
MW4079 (Q4)	PFOS+PFHxS	0.04	**0.88**	**0.14**	**0.11**
	PFOA	ND	0.02	0.02	0.02
MW4223 (Q2)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

ND = Not detected above laboratory limits of reporting

[1] New maximum value

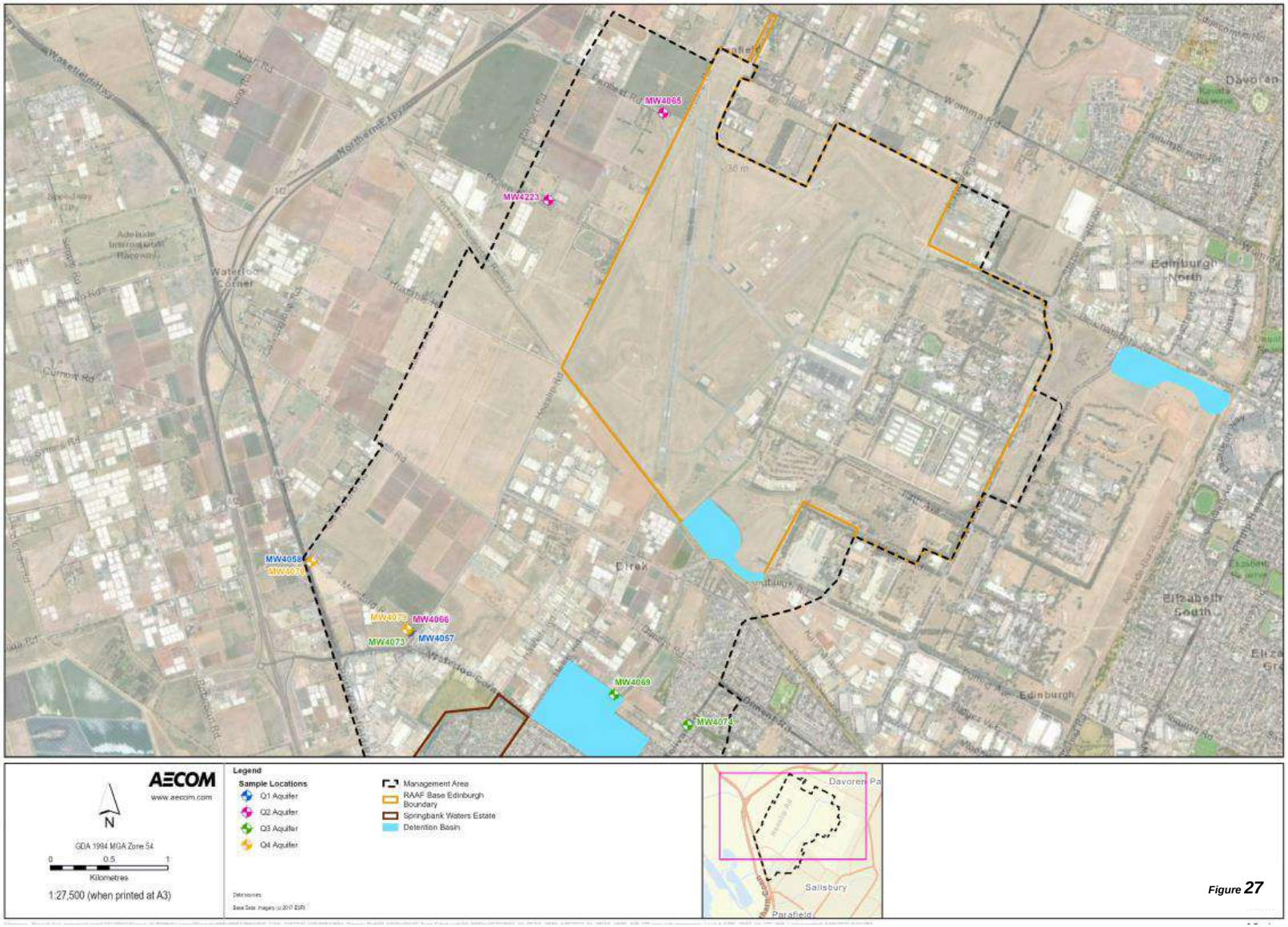


Figure 27 Sampled locations with proximity to former identified licensed Quaternary groundwater users

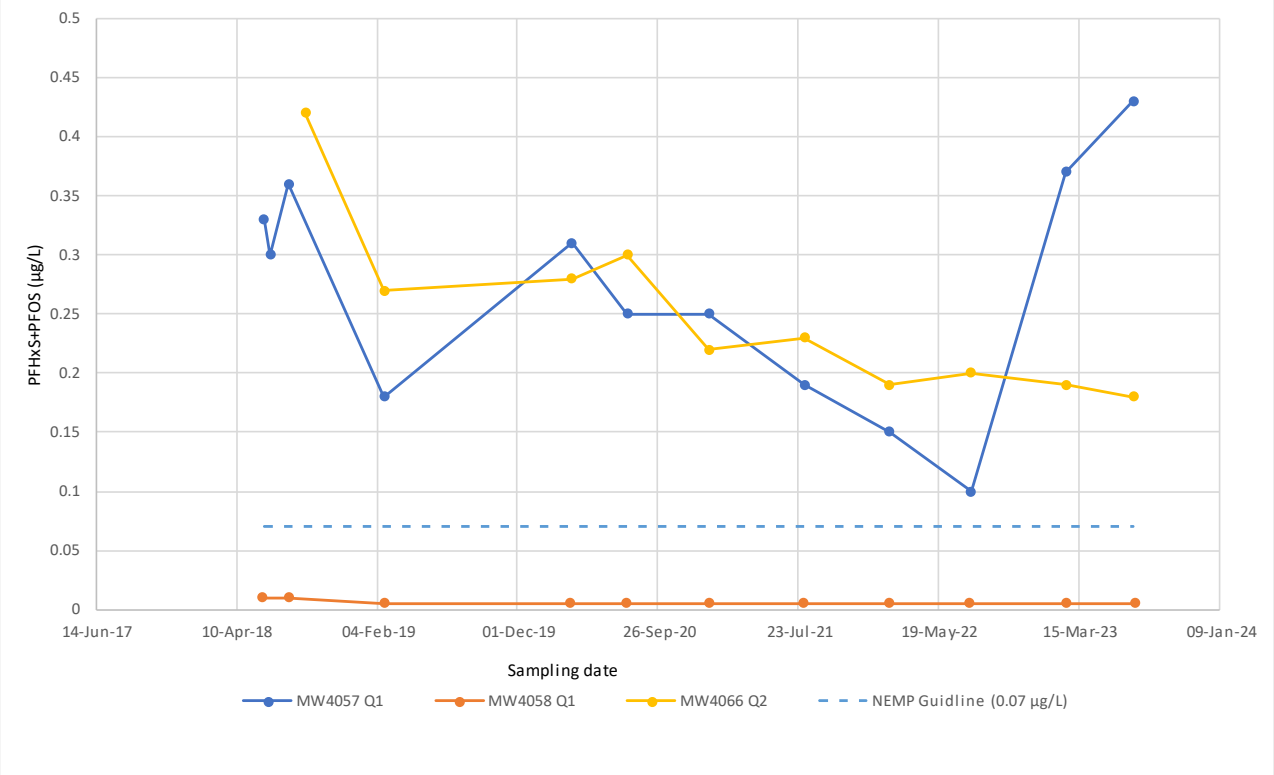


Figure 28 Q1 and Q2 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends

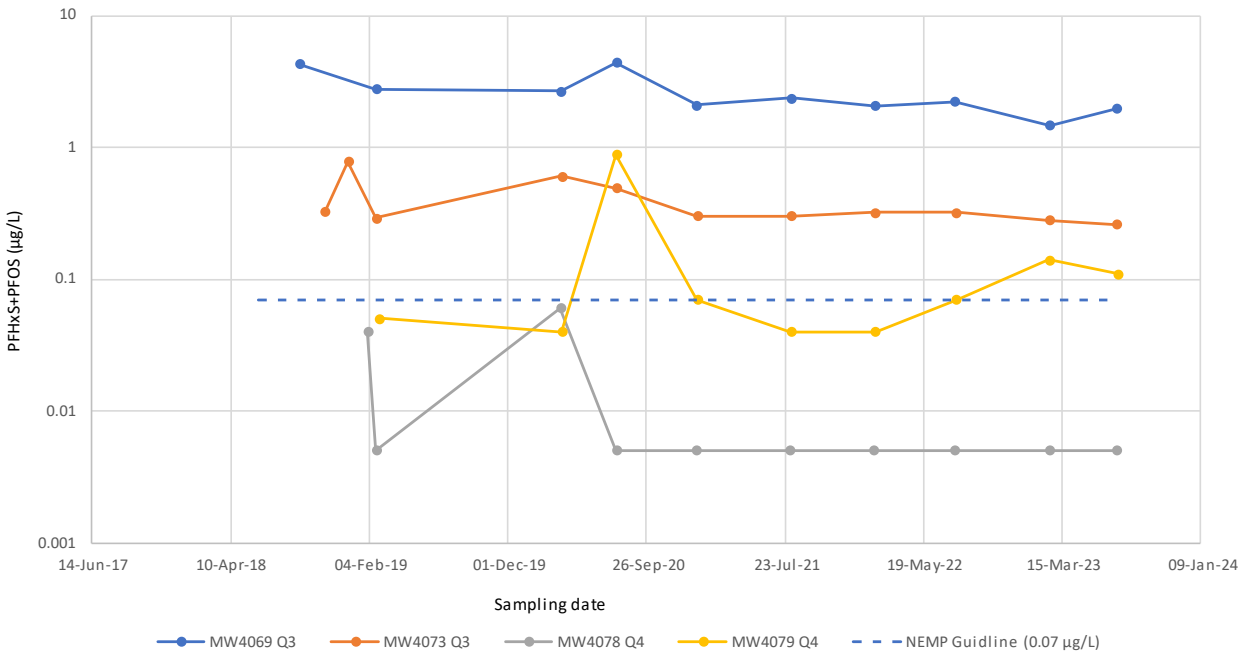


Figure 29 Q3 and Q4 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends

Note logarithmic vertical scale

7.1.14 Tertiary aquifer bores PFAS analytical results

Off-Base T1 monitoring wells MW4220, MW4221 and MW4222 are included in the OMP to measure PFAS concentrations within the T1 aquifer. These bores are used for irrigation and investigation purposes and are operated by the Salisbury City Council (irrigation bores MW4221 and MW4222) and the Department for Environment and Water (investigation bore MW4220).

Concentrations of PFOA and PFOS+PFHxS at all T1 monitoring well locations were below the laboratory LOR for both 2023 monitoring events. Historically, PFOS+PFHxS has only been reported above the laboratory LOR at MW4220 in March 2020 (0.02 µg/L).

The PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline was not exceeded for PFOS+PFHxS or PFOA at any location.

Analytical results are summarised in **Table 18** and sample locations are depicted in **Figure 30.**

Table 18 Tertiary aquifer bores PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	January/February 2023	July 2023
MW4220 (T1)	PFOS+PFHxS	ND	0.02	ND	ND
	PFOA	ND	ND	ND	ND
MW4221 (T1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW4222 (T1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND

ND = Not detected above laboratory limits of reporting

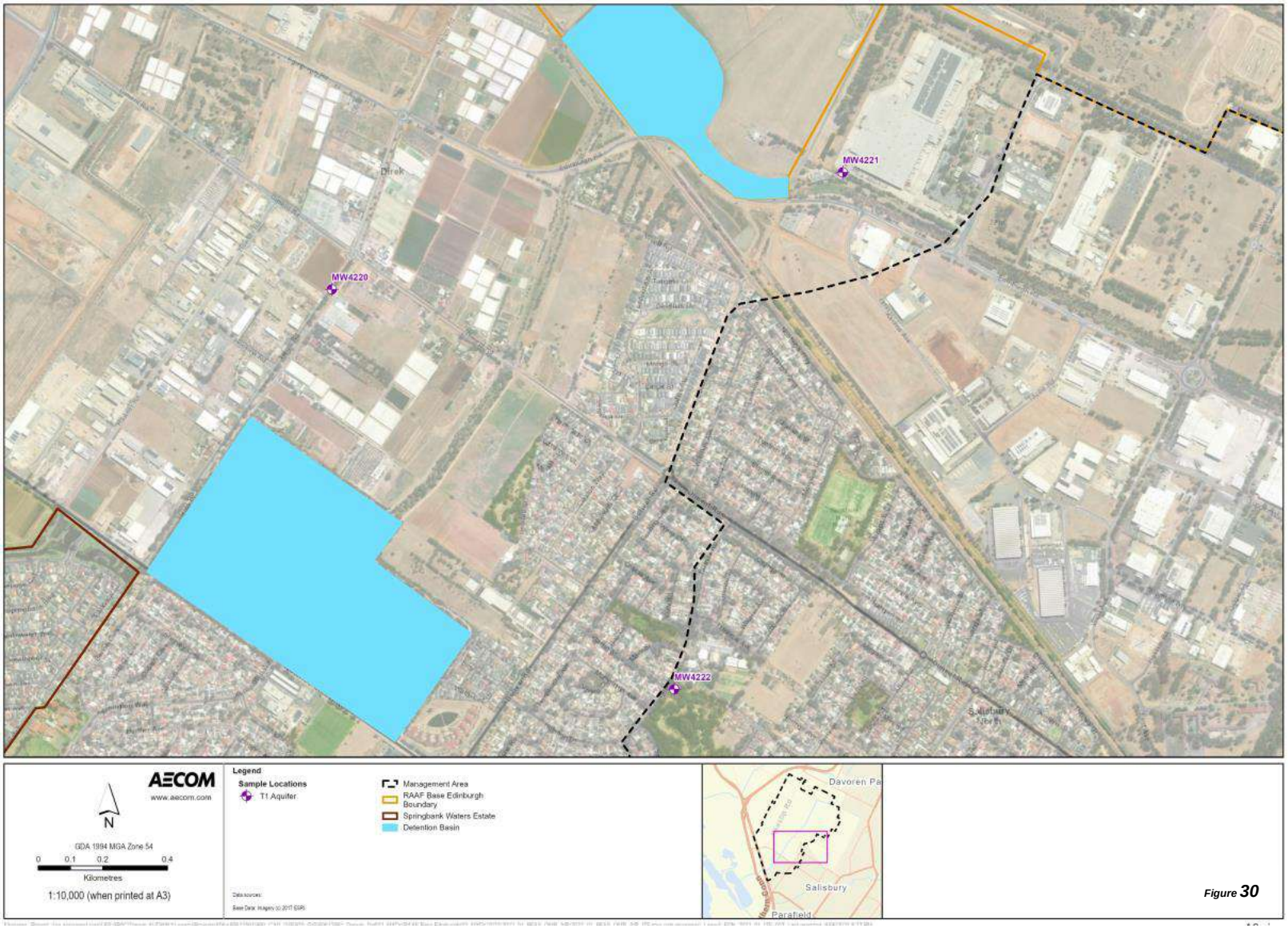


Figure 30 Sampled locations of T1 aquifer bores

7.2 Surface water

7.2.1 Surface water field observations

During the February 2023 monitoring event, field staff noted the following.

- SW003, SW011, SW019, SW033, SW037 had insufficient water for sampling.
- A septic odour was noted at location SW078.

Flow was to the south or west when observed seven of the 16 locations observed no flow.

During the July 2023 monitoring event, field staff noted the following:

- SW019, SW021 and SW033 had insufficient water for sampling.

Flow was to the south or west when observed eight of the 18 locations observed no flow.

7.2.2 Surface water physiochemical parameters

Surface water physiochemical parameters were recorded at the time of collecting samples. Parameters recorded since the commencement of the OMP in March 2020 are presented in **Table T3** (**Appendix D**). Field parameters from the 2023 monitoring period are presented in the OMP July 2023 Factual Report in **Appendix C**, and summarised below:

February 2023

- Dissolved oxygen ranged from 1.17 mg/L (SW029) to 6.16 mg/L (SW010), indicating moderately to well oxygenated conditions.
- Electrical conductivity ranged from 273 µS/cm (SW059) to 1686 µS/cm (SW062) indicating freshwater conditions.
- pH ranged from 6.84 (SW029/SW062) to 8.04 (SW010) indicating basic conditions.
- OPR (corrected) ranged from -41.4 mV (SW078) to 354 mV (SW029) indicating reducing to oxidising conditions.

July 2023

- Dissolved oxygen ranged from 2.37 mg/L (SW078) to 9.10 mg/L (SW018), indicating moderately to well oxygenated conditions.
- Electrical conductivity ranged from 122 µS/cm (SW059) to 1575 µS/cm (SW078) indicating freshwater conditions.
- pH ranged from 7.25 (SW017) to 8.48 (SW058) indicating basic conditions.
- OPR (corrected) ranged from -24.1 mV (SW078) to 266.6 mV (SW017) indicating reducing to oxidising conditions.

7.2.3 Surface water analytical results

Surface water analytical results are presented in **Table T4 (Appendix D)**, and monitoring activities are summarised in the OMP Factual Reports provided in **Appendix C**. Monitoring locations are presented in **Figure A3** (**Appendix A**) and a concentration map is presented as **Figure A6.1** (**Appendix A**).

A summary of surface water analytical results, including historical OMP results, is provided in **Table 19** below.

Table 19 Summary of PFAS in surface water

Sampling event	No. sample locations analysed	Compound	Concentration range, µg/L (location)	No. of sample locations with concentrations > LOR
On-Base				
April 2020	7	PFOS+PFHxS	<0.01 – 5.74 (SW019)	5
		PFOA	<0.01 – 0.31 (SW019)	5
		PFOS	<0.01 – 4.04 (SW019)	5
August 2020	10	PFOS+PFHxS	<0.01 – 1.78 (SW019)	7
		PFOA	<0.01 – 0.06 (SW019)	1
		PFOS	<0.01 – 1.53 (SW019)	7
February 2021	9	PFOS+PFHxS	<0.01 – 1.44 (SW019)	6
		PFOA	<0.01 – 0.08 (SW019)	4
		PFOS	<0.01 – 0.94 (SW019)	8
August 2021	9	PFOS+PFHxS	<0.01 – 0.54 (SW006)	6
		PFOA	<0.01 – 0.02 (SW019)	2
		PFOS	<0.01 – 0.48 (SW006)	6
January/February 2022	No samples taken			
July 2022	9	PFOS+PFHxS	<0.01 – 1.97 (SW019)	5
		PFOA	<0.01 – 0.07 (SW019)	1
		PFOS	<0.01 – 1.45 (SW019)	5
February 2023	6	PFOS+PFHxS	<0.01 – 0.31 (SW050)	5
		PFOA	<0.01 -0.02 (SW050 and SW054)	2
		PFOS	<0.01 – 0.19 (SW050)	5
July 2023	7	PFOS+PFHxS	<0.01 -0.09 (SW037)	5
		PFOA	<0.01	0
		PFOS	<0.01 – 0.07 (SW037)	5

Sampling event	No. sample locations analysed	Compound	Concentration range, µg/L (location)	No. of sample locations with concentrations > LOR
Off-Base				
April 2020	10	PFOS+PFHxS	<0.01 – 0.36 (SW010)	8
		PFOA	<0.01 – 0.03 (SW010/SW058)	5
		PFOS	<0.01 – 0.26 (SW010)	8
August 2020	10	PFOS+PFHxS	<0.01 – 0.15 (SW010/SW012/SW058)	13
		PFOA	-	0
		PFOS	<0.01 – 0.15 (SW010/SW058)	6
February 2021	11	PFOS+PFHxS	<0.01 – 0.27 (SW059)	8
		PFOA	<0.01 – 0.08 (SW059/SW012)	4
		PFOS	<0.01 – 0.18 (SW059)	9
August 2021	11	PFOS+PFHxS	<0.01 – 0.12 (SW010)	8
		PFOA	-	0
		PFOS	<0.01 – 0.12 (SW010)	8
January/February 2022	No samples taken			
July 2022	11	PFOS+PFHxS	<0.01 – 0.70 (SW011)	6
		PFOA	<0.01 – 0.02 (SW011)	1
		PFOS	<0.01 – 0.27 (SW011)	6
July 2022	9	PFOS+PFHxS	<0.01 – 1.97 (SW019)	5
		PFOA	<0.01 – 0.07 (SW019)	1
		PFOS	<0.01 – 1.45 (SW019)	5
February 2023	7	PFOS+PFHxS	<0.01 – 0.47 (SW012)	8
		PFOA	<0.01 – 0.02 (SW010, SW012, SW058, SW062)	4
		PFOS	<0.01 – 0.26 (SW012)	8

Surface water samples from SW019 historically reported the highest PFOS+PFHxS and PFOA concentrations located on-Base at Source Area P1; SW019 was dry during both 2023 events. During the current monitoring period SW012 and SW078 reported the highest concentrations of PFOS for the February and July events, respectively. SW012 is located immediatly downstream of the Base boundary and SW078 is located off-Base at Kaurna Wetlands. SW010, SW012, SW050, SW054, SW058 and SW062 reported the highest concentration of PFOA during the February event, SW078 reported the highest concentration during the July 2023 event. All locations that reported the highest conetrations during the 2023 period observed no to minimal flow.

Two new exceedances of ecological criteria were reported in OMP surface water sampling locations, as presented in **Table 20.**

Table 20 Surface water – new exceedance of ecological screening criteria

Location	Area	Details
February 2023		
SW012	Off-Base – Helps Road Drain	PFOS (0.26 µg/L)

Location	Area	Details
July 2023		
SW078	Off-Base – Kaurna Park Wetland	PFOS (0.44 µg/L)

Three new detected concentrations of PFOS+PFHxS or PFOA were identified in OMP surface water sampling locations, as presented in **Table 21.**

Table 21 Surface water result – first time detections of PFOS, PFOS+PFHxS and/or PFOA

Location	Area	Details
February 2023		
SW032	Off-Base – up stream	PFOS+PFHxS (0.03 µg/L)
SW050	On-Base – Southern detention basin	PFOA (0.02 µg/L)
SW054	On-Base – Southern detention basin	PFOA (0.02 µg/L)
July 2023		
SW078	Off-Base – Kaurna Park Wetland	PFOA (0.02 µg/L)

During the current monitoring period, new maximum concentrations of PFOS+PFHxS and/or PFOA were identified in OMP surface water sampling locations (in addition to the first-time detections listed above) as presented in **Table 22**.

Table 22 Surface water results – new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA

Location	Area	Details
February 2023		
SW078	Off-Base – Kaurna Park Wetland	PFOS+PFHxS (0.13 µg/L) PFOS (0.1 µg/L)
SW012	Off-Base – Helps Road drain	PFOS+PFHxS (0.47 µg/L) PFOS (0.26 µg/L)
SW050	On-Base – Southern detention basin	PFOA (0.02 µg/L)
SW054	On-Base – Southern detention basin	PFOA (0.02 µg/L)
SW062	Off-Base – Helps Road drain	PFOS+PFHxS (0.28 µg/L) PFOA (0.02 µg/L)
July 2023		
SW078	Off-Base – Kaurna Park Wetland	PFOS+PFHxS (0.79 µg/L) PFOS (0.44 µg/L) PFOA (0.02 µg/L)

During the 2023 reporting period, no new minimum concentrations of PFOS+PFHxS and or PFOA were identified in OMP surface water sampling locations.

7.2.4 Up and cross gradient (on and off-Base) surface water PFAS results

Five surface water monitoring locations are located up or cross hydraulic gradient of the Source Areas; of these, two locations (SW003 and SW028) are located on-Base and three locations (SW029, SW032 and SW033) are located off-Base. Analytical results for these locations are summarised in **Table 23** and PFOS+PFHxS trends are illustrated in **Figure 31**. Results are summarised below:

- All sampled up and cross gradient locations reported PFOS+PFHxS concentrations below laboratory LOR (and therefore below all adopted guidelines) with the exception of SW032, which reported concentrations of PFOS+PFHxS above laboratory LOR (but below adopted guidelines) for the first time.

Table 23 Up- and cross-gradient on- and off-Base surface water PFAS summary results (µg /L)

Location ID	Analyte	Historical Range 2017-2022		2023 Monitoring	
		Min	Max	February 2023	July 2023
SW003	PFOS+PFHxS	ND	0.01	Dry	ND
	PFOA	ND	ND	Dry	ND
	PFOS	ND	0.01	Dry	Dry
SW028	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	0.01	ND	ND
	PFOS	ND	0.01	ND	ND
SW029	PFOS+PFHxS	ND	0.20	ND	ND
	PFOA	ND	0.01	ND	ND
	PFOS	ND	0.08	ND	ND
SW032	PFOS+PFHxS	ND	ND	0.03	ND
	PFOA	ND	ND	ND	ND
	PFOS	ND	ND	0.03[1]	ND
SW033	PFOS+PFHxS	ND	0.02	Dry	Dry
	PFOA	ND	ND	Dry	Dry
	PFOS	ND	0.02	Dry	Dry

ND = Not detected above laboratory limits of reporting

Dry = insufficient water to collect sample

[1] New maximum value

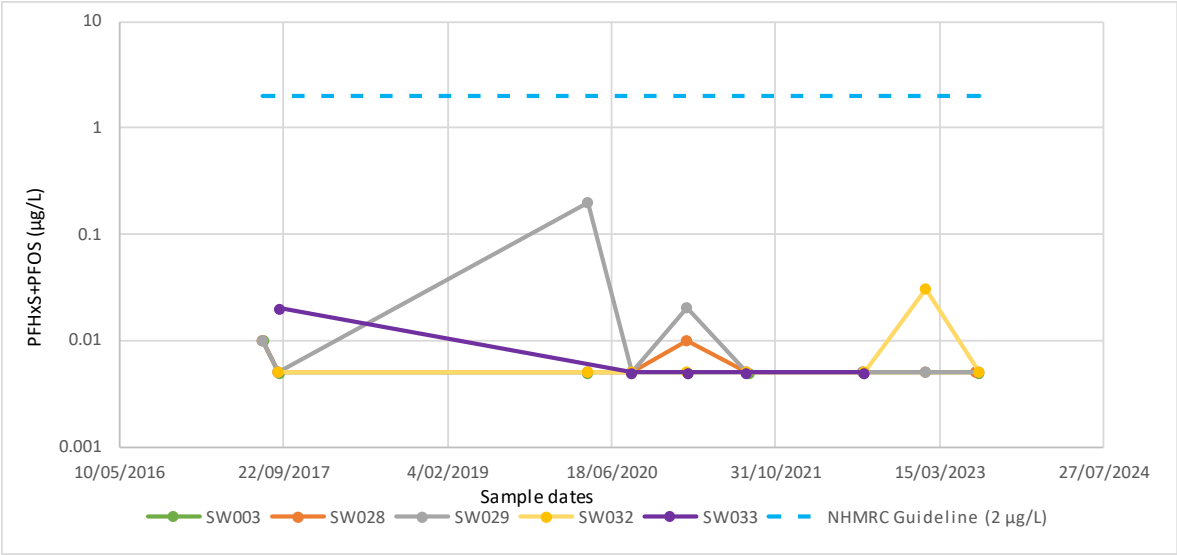


Figure 31 Upgradient surface water locations PFOS+PFHxS

Note: PFAS Recreational Waters guideline only is displayed on this graph. Ecological guidelines are not displayed. A value of half the LOR (0.005 µg/L) has been used where concentrations were reported below the LOR for graphical purposes.

7.2.5 On-Base surface water PFAS results

Eight surface water locations (SW006, SW017, SW018, SW019, SW021, SW050, SW054 and SW037) assess the conditions of the surface water drainage network on-Base. Surface water location SW037 captures the conditions of water exiting the Base drainage network. Analytical results are summarised in **Table 24** and PFOS+PFHxS trends are illustrated in **Figure 32**. Results are summarised below:

- All locations reported concentration of PFOS+PFHxS above the laboratory LOR during the February and July events except for SW019 (dry), SW037 (dry) during the February event and SW021 (dry) during the July event. A new maximum concentration of PFOS+PFHxS was reported for SW050 during the February event.
- PFOS concentrations above adopted ecological criteria were identified in SW006, SW050 and SW054, consistent with the historical distribution.
- All locations sample on-Base reported concentrations of PFOA below the laboratory LOR except for SW006, SW021, SW050 and SW054 in February 2023.
- SW050 and SW054 reported concertation of PFOA above laboratory LOR for the first time.

Table 24 On-Base surface water PFAS summary results (µg/L)

Location ID	Analyte	Historical range 2017 – 2022		2023 Monitoring	
		Min	Max	February 2023	July 2023
SW006	PFOS+PFHxS	0.05	1.77	0.2	0.06
	PFOA	ND	0.03	0.01	ND
	PFOS	0.05	**1.64**	**0.17**	0.06
SW017	PFOS+PFHxS	ND	0.30	0.02	0.02
	PFOA	ND	0.02	ND	ND
	PFOS	ND	**0.2**	0.02	0.02
SW018	PFOS+PFHxS	0.02	0.97	0.08	0.05
	PFOA	ND	0.03	ND	ND
	PFOS	**0.2**	**0.27**	0.08	0.05
SW019	PFOS+PFHxS	0.49	***148***	Dry	Dry
	PFOA	0.02	3.3	Dry	Dry
	PFOS	**0.36**	***120***	Dry	Dry
SW021	PFOS+PFHxS	ND	0.04	0.02	Dry
	PFOA	ND	0.01	0.01	Dy
	PFOS	ND	0.04	0.02	Dry
SW037	PFOS+PFHxS	0.03	0.12	Dry	0.09
	PFOA	ND	ND	Dry	ND
	PFOS	0.03	0.1	Dry	0.07
SW050	PFOS+PFHxS	ND	0.21	0.31[1]	0.08
	PFOA	ND	ND	0.02	ND
	PFOS	ND	**0.19**	**0.19**	0.06
SW054	PFOS+PFHxS	ND	0.24	0.29[1]	0.06
	PFOA	ND	ND	0.02	ND
	PFOS	0.01	**0.22**	**0.16**	0.04

Bold denotes exceedance of PFAS NEMP 2.0 (2020) PFAS fresh water 95% species protection (0.13 µg/L for PFOS)

Bold italic denotes exceedance of PFAS NEMP 2.0 (2020) PFAS recreational water (2 µg/L for PFOS and PFHxS)

ND = Not detected above laboratory limits of reporting

Dry = insufficient water to collect sample

[1] New maximum value

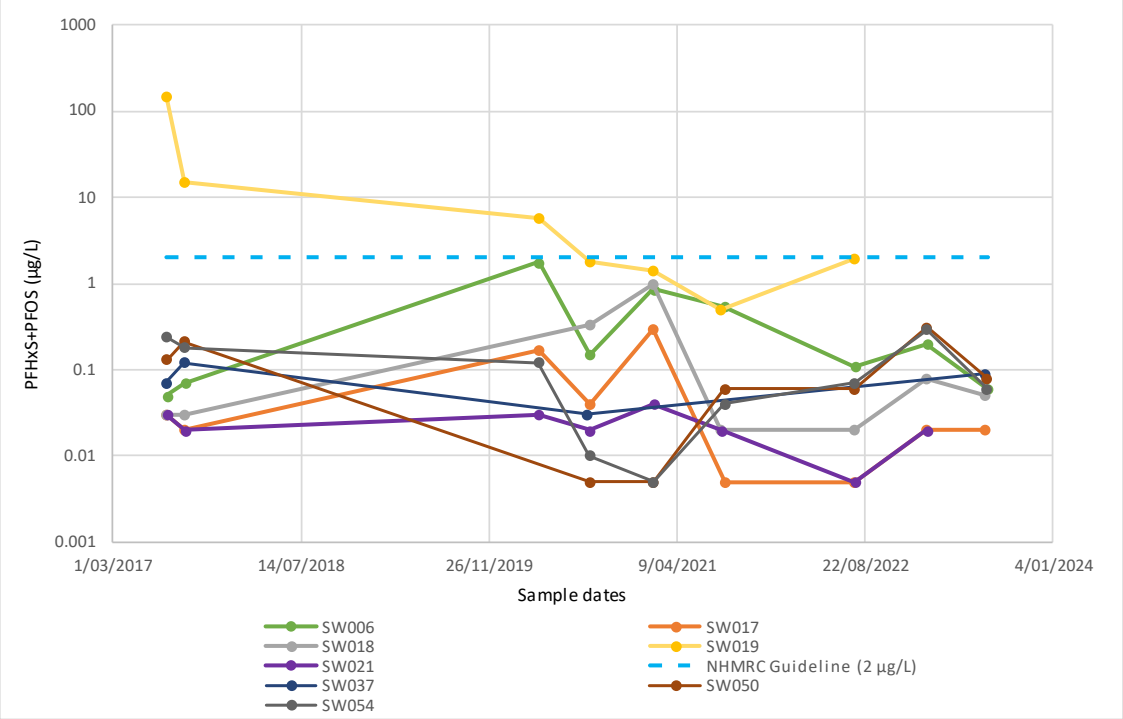


Figure 32 On-Base surface water PFOS+PFHxS

* PFAS Recreational Waters guideline only is displayed on this graph. Ecological guidelines are not displayed

7.2.6 Helps Road Drain (off-Base) surface water PFAS results

Five surface water locations (SW009, SW010, SW011, SW012 and SW062) capture the conditions of the surface water in the Helps Road Drain off-Base. Analytical results are summarised in **Table 25** and PFOS+PFHxS trends are illustrated in **Figure 33**. Results are summarised below:

- All sampled Helps Road Drain (off-Base) locations reported PFOS+PFHxS and PFOA concentrations below adopted recreational guidelines for the 2023 monitoring round; PFOS concentrations exceeded adopted ecological criteria for locations SW010, SW011 and SW012.
- Concentrations of PFOS+PFHxS were reported above the laboratory LOR at SW010, SW012 and SW062 in February and July monitoring rounds as well as SW009, SW011 only during the July monitoring round.
- New maximum concentrations for PFOS+PFHxS were identified at SW012 and SW062 during the February monitoring round. New maximum concentration for PFOA were identified at SW062 during the February monitoring round.

Table 25 Helps Road Drain (Off-Base) PFAS summary results(µg/L)

Location ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	February 2023	July 2023
SW009	PFOS+PFHxS	0.02	0.16	0.05	0.15
	PFOA	ND	0.01	ND	ND
	PFOS	0.02	**0.14**	0.04	0.08
SW010	PFOS+PFHxS	0.1	0.38	0.26	0.13
	PFOA	ND	0.08	ND	ND

Location ID	Analyte	Historical range 2017-2022		2023 Monitoring	
		Min	Max	February 2023	July 2023
	PFOS	0.05	**0.26**	**0.18**	0.07
SW011	PFOS+PFHxS	NA	0.70	Dry	0.21
	PFOA	ND	0.02	Dry	ND
	PFOS	ND	**0.27**	Dry	**0.14**
SW012	PFOS+PFHxS	0.03	0.17	0.47[1]	0.19
	PFOA	ND	0.02	0.02	ND
	PFOS	0.03	0.12	**0.26**	0.1
SW062	PFOS+PFHxS	0.02	0.15	0.28[1]	0.1
	PFOA	ND	0.01	0.02	ND
	PFOS	0.02	0.13	0.12	0.05

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) PFAS fresh water 95% species protection (0.13 µg/L for PFOS)
Bold italic denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) PFAS recreational water (2 µg/L for PFOS and PFHxS)
ND = Not detected above laboratory limits of reporting
Dry = insufficient water to collect sample
[1] New maximum value

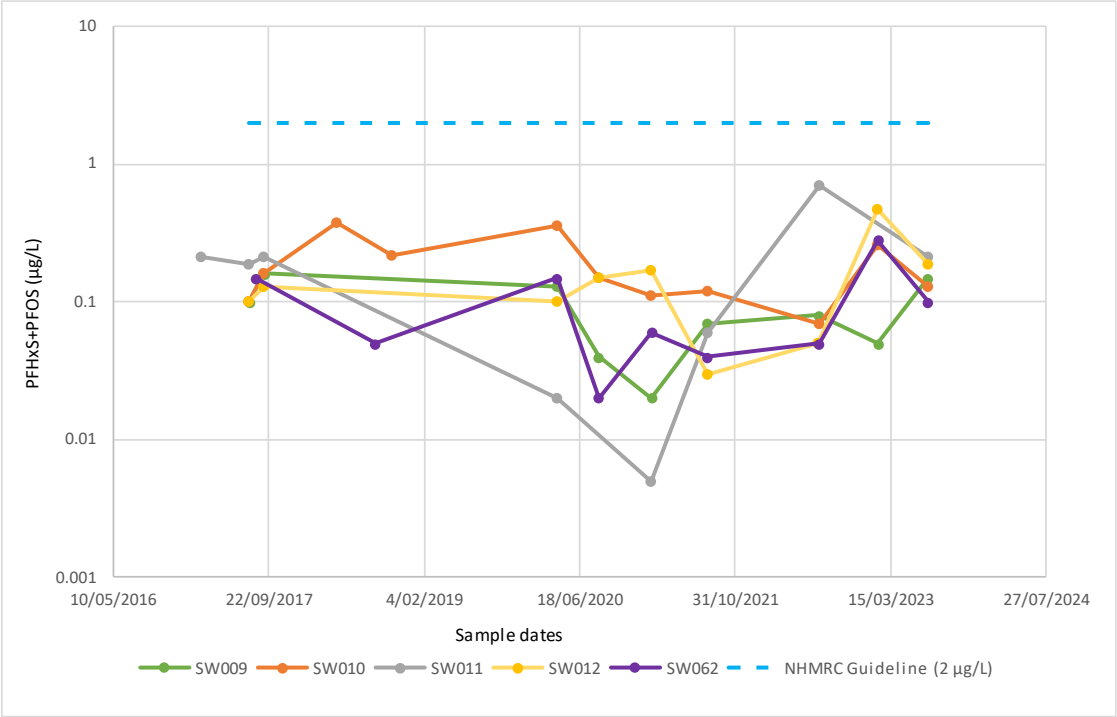


Figure 33 Helps Road (Off-Base) surface water PFOS+PFHxS concentration trends

* PFAS Recreational Waters guideline only is displayed on this graph. Ecological guidelines are not displayed.

7.2.7 Kaurna Park Wetland (off-Base) surface water PFAS results

Three surface water locations, SW058, SW059 and SW078, capture the conditions of the surface water in the Kaurna Park Wetland (off-Base). Analytical results are summarised in **Table 26** and PFOS+PFHxS trends are illustrated in **Figure 34** Results are summarised below:

- All sampled Kaurna Park Wetland (off-Base) locations reported PFOS+PFHxS and PFOA concentrations below the adopted recreational guidelines for the 2023 monitoring round; PFOS concentrations exceeded adopted ecological criteria for locations SW058 and SW078.
- Concentrations of PFOA were reported below the laboratory LOR at all locations with the exception of SW058 in January and SW078 in July.

Table 26 Kaurna Park Wetland (off-Base) PFAS summary results (µg/L)

Location ID	Analyte	Historical range 2017-2022		OMP 2023 Monitoring	
		Min	Max	February 2023	July 2023
SW058	PFOS+PFHxS	0.04	0.40	0.24	0.13
	PFOA	ND	0.08	0.02	ND
	PFOS	0.04	**0.26**	**0.16**	0.08
SW059	PFOS+PFHxS	ND	0.27	0.02	0.03
	PFOA	ND	0.02	ND	ND
	PFOS	ND	**0.23**	0.02	0.03
SW078	PFOS+PFHxS	ND	0.06	0.13[1]	0.79[1]
	PFOA	ND	ND	ND	0.02
	PFOS	ND	0.06	0.1	**0.44**[1]

Bold denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) PFAS fresh water 95% species protection (0.13 µg/L for PFOS)
Bold italic denotes exceedance of PFAS NEMP 2.0 (HEPA, 2020) PFAS recreational water (2 µg/L for PFOS and PFHxS)
ND = Not detected above laboratory limits of reporting
Dry = insufficient water to collect sample
[1] New maximum value

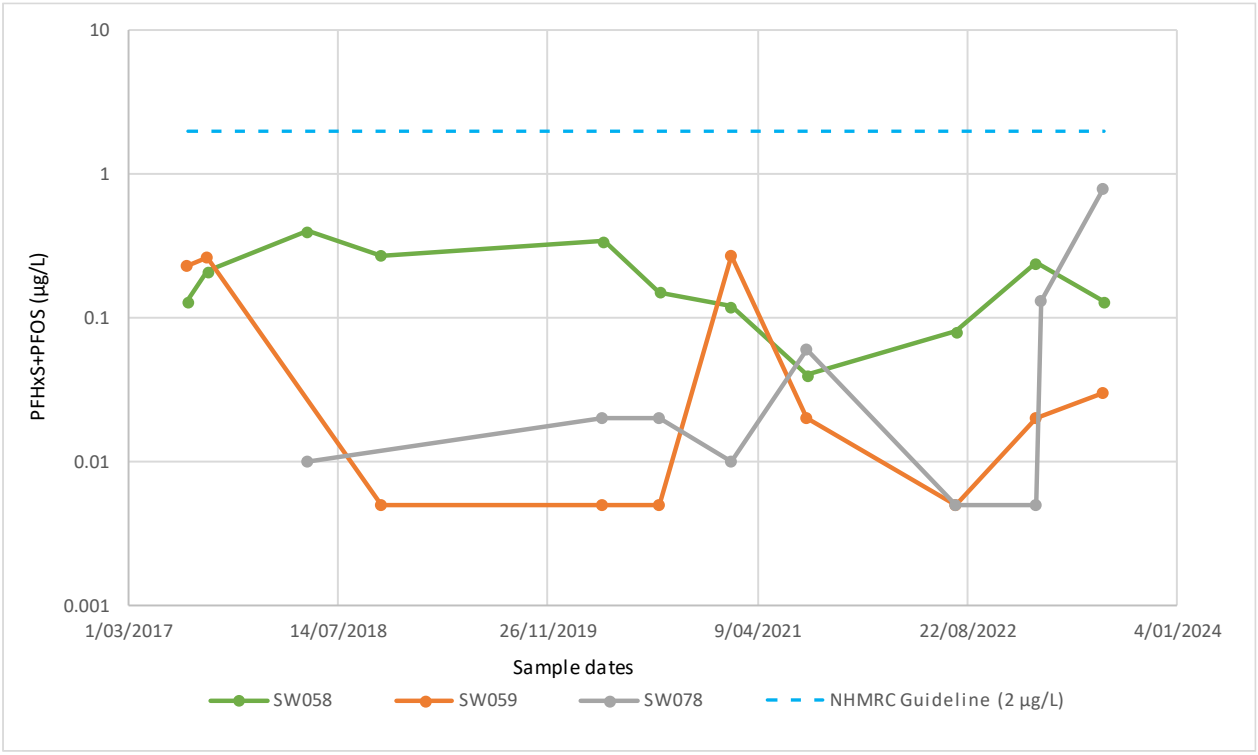


Figure 34 Kaurna Park surface water PFOS+PFHxS concentration trends*

Notes:

- PFAS Recreational Waters guideline only is displayed on this graph. Ecological guidelines are not displayed
- A value of half the LOR (0.005 µg/L) has been used where concentrations were reported below the LOR for graphical purposes.

8.0 Interpretive analysis

In addition to data from the current monitoring period, historical data from 2017 – 2022 was included in the assessment to analyse temporal trends, and the Site setting as outlined in **Section 2.0** was considered with regards to interpretation of the results. The historical data was obtained from the following reports.

- *RAAF Base Edinburgh Environmental Investigation of PFAS, Detailed Site Investigation (JBS&G, 2018)*
- *RAAF Base Edinburgh Environmental Investigation of PFAS, Detailed Site Investigation Addendum Report (JBS&G, 2019)*
- *RAAF Base Edinburgh Environmental Investigation of PFAS, Human Health Risk Assessment and Preliminary Ecological Risk Assessment (JBS&G, 2019)*
- *RAAF Base Edinburgh Annual Investigation Report PFAS OMP (AECOM, 2021)*
- *Ongoing Monitoring Interpretive Report 2022, PFAS OMP – RAAF Base Edinburgh (AECOM, 2022)*

Interpretive analysis is conducted to identify changes in locations and/or concentrations of PFAS throughout the monitoring area utilising both quantitative and qualitative data. For groundwater, where sufficient data is available, Mann-Kendall statistical analysis has been utilised to determine the presence or non-presence of trends for individual monitoring locations. The smaller the sample set size available for statistical analysis the lower the potential accuracy of the statistical analysis results. As such, Mann-Kendall statistical analysis has typically been applied to locations with eight or more available data points (in two instances analysis was undertaken for wells with six or seven data points). For surface water, temporal trend assessment was conducted on the basis of scatter plots presenting measured concentrations.

8.1 Hydrogeology

Historical gauging results since the commencement of the OMP in March 2020 are presented in **Table T1** (**Appendix D**). Over the 2023 monitoring period, there was roughly a 0.5m increase in groundwater elevations for the January/February and July period compared to the respective rounds in 2022. The increase in groundwater is likely attributed to the above average rainfall during the latter half of 2022.

The inferred groundwater flow during the monitoring period for Q1 and Q2 aquifers is consistent with 2018 and 2019 DSI report (JBS&G 2018, & 2019), with inferred groundwater flow to the southwest towards Gulf St Vincent.

It is noted that previous assessments (AECOM, 2022) have identified groundwater levels in the Q3 aquifer at MW068 to exhibit a different response to other wells in the network, attributed to extraction from nearby irrigation wells. Gauging during the current monitoring period showed a similar large variation in elevation to that previously observed at this well.

The 2023 monitoring also confirmed the historically observed large variation in elevation in wells MW4078 and MW4079.

As noted in **Section 2.1**, a seasonal trend in water levels is evident with decreased and somewhat variable levels in summer and higher stable levels during winter; it has been inferred that the seasonal trends are largely the results of extraction from the tertiary aquifers (JBS&G, 2023).

8.2 Groundwater results

8.2.1 On-Base Groundwater

Consistent with historical results, the highest concentrations of PFAS identified in groundwater on-Base are located near Source Area P11 (MW2116). Concentrations On-Base remain generally within historical ranges, locations with new maximum concentrations discussed in **Section 7.1.5** remain within an order of magnitude of their previous maximum concentrations. This is consistent with the absence of

ongoing or new releases of PFAS contamination, but indicative that PFAS may still be mobilising to groundwater in certain areas.

8.2.1.1 Statistical analysis – on-Base wells

Mann-Kendall statistical analysis was undertaken on monitoring wells with six or more (generally at least eight) data points, with greater than four being above the laboratory limit of reporting, with at least three dry season and wet season sampling events each, to identify any overall increasing or decreasing trends in PFOA and/or PFOS+PFHxS.

The Mann-Kendall analysis was used to assess the trends in the concentrations in groundwater and whether they have monotonic upward or downward trend in PFAS concentrations. The significance of these trends is determined by the confidence factor, or p-value, of the analysis, as follows:

- a confidence factor over 95% indicates that there is an increasing or decreasing trend
- a confidence factor over 90% indicates the there is a ‘probably increasing’ or ‘probably decreasing’ trend
- a confidence factor less than 90% indicates ‘Stable’ or ‘No trend’ (depending on the coefficient of variation).

Results for locations selected for Mann-Kendall analysis are shown in **Appendix E** and results for on-Base locations are shown in **Table 27**.

Locations with potential or probably increasing or decreasing trends are depicted on **Figure 4.17 Appendix A**.

Table 27 Mann-Kendall analysis for on-Base locations

Location	Analyte	Probably increasing trend	Increasing trend	Probably decreasing trend	Decreasing trend	Stable trend	No trend
Background north and northeast of Base	PFOS+PFHxS	-	-	-	-	-	MW2134 (Q1) MW2218 (Q2)
	PFOA	-	-	-	-	-	-
Source Area P4	PFOS+PFHxS	-	-	-	MW2358 (Q1) MW2126 (Q2) MW2162 (Q2)	MW2394 (Q1)	MW2411 (Q1)
	PFOA	-	-	MW2358 (Q1)	-	-	-
Source Area P9 and P15A/B, P11, P16 and P21	PFOS+PFHxS	MW2202 (Q2) MW2284 (Q4) MW2499 (Q1)	MW2148 (Q1) MW2188 (Q1) MW2270 (Q3) MW2272 (Q3)	-	MW2112 (Q1) MW2201 (Q1) MW2203 (Q1) MW2200 (Q2)	MW2116 (Q1) MW2194 (Q1)	MW2120 (Q1) MW2149 (Q1) MW2194 (Q1) MW2197 (Q1) MW2158 (Q2) MW2189 (Q2)
	PFOA	MW2188 (Q1) MW2499 (Q1) MW2158 (Q2) MW2272 (Q3) MW2284 (Q4)	MW2148 (Q1) MW2270 (Q3)	MW2150 (Q1)	MW2112 (Q1) MW2200 (Q2)	-	-
Source Areas P1, P3A, P3B and P27	PFOS+PFHxS	MW2209 (Q2)	MW2114 (Q1)	MW2490 (Q1)	MW2130 (Q1) MW2157 (Q2)	MW2528 (Q1) MW2210 (Q2)	MW2131 (Q1) MW2193 (Q1)
	PFOA	-	MW2114 (Q1)	-	MW2528 (Q1)	-	--
Southern, western and northern boundary	PFOS+PFHxS	MW2275 (Q3)	MW2137 (Q1) MW2183 (Q2) MW2185 (Q2)	MW2286 (Q4)	MW2139 (Q1) MW2177 (Q1) MW2180 (Q1) MW2184 (Q1) MW2501 (Q1) MW4013 (Q1)	MW2129 (Q1) MW2182 (Q1) MW2145 (Q2) MW2173 (Q2)	MW2169 (Q1) MW2175 (Q1) MW2182 (Q1) MW2281 (Q3) MW2285 (Q4)
	PFOA	-	MW2183 (Q2) MW2185 (Q2)	MW2177 (Q1) MW2286 (Q4)	-	-	-

8.2.1.2 Seasonal variation

Concentrations of PFOS+PFHxS at on-Base groundwater monitoring locations show minor fluctuation; at some locations, seasonal influence on concentrations of PFOS+PFHxS is apparent, as shown on plots of PFOS+PFHxS and SWL for selected wells presented in **Appendix F**.

A positive correlation between SWLs and concentrations is more apparent at the following locations:

- The most positive correlations are observed for Q1 wells in Source Areas
- Correlation between seasonal SWLs and concentrations is also apparent in Q3 and Q4 wells in Source Areas
- Positive correlations are also apparent for Q2 wells on the downgradient Base boundary; these wells are in proximity to Source Areas

It is expected that higher SWLs will increase contact between groundwater and residual impact in soils, resulting in increased groundwater concentrations, especially in the shallower aquifers. This would be less of an influence outside Source Areas, consistent with no positive correlation generally observed away from sources. The apparent seasonal effect in deeper wells may reflect connectivity between the shallow and deeper aquifers.

Additional data collected in future monitoring events will be reviewed and if and where clear seasonal responses are apparent, where appropriate, Mann-Kendall tests will be performed on seasonally filtered data.

8.2.1.3 Trend analysis

Despite the majority of on-Base wells indicating decreasing, probably decreasing or stable trends, a number of Source Area wells exhibited increasing or probably increasing trends.

Concentrations at locations within Source Area P4 remain within historical ranges and reported stable or decreasing trends with the exception of MW2411 (Q1) which reported a historical maximum concentration during the July 2023 monitoring period. MW2411 was a monitoring well affected by remediation earth works in the P4 area and was subsequently covered by soil; the well was later uncovered, and the standpipe extended. It is possible that during the uncovering process the well was contaminated by source area soil and that the increased concentrations may be reflective of contaminated soil ingress. It is recommended that MW2411 is redeveloped prior to the next sampling event. Source Area P4 monitoring wells MW2358 (Q1), MW2126 (Q2) and MW2162 (Q2) all reported decreasing trends (>95% confidence); notably there is no inferred upgradient source.

An increase in the magnitude of PFOS+PFHxS was reported at P16 Source Area well MW2202 (Q2) during the 2022 monitoring period; 2023 results indicated a probably increasing trend. A decreasing trend was assessed for co-located well MW2201 (Q1). Notably, well MW2201 reported decreases in EC by roughly four times since monitoring began in 2020, potentially indicative of surface infiltration (i.e. through preferential pathways) likely diluting and dispersing PFAS concentrations vertically and laterally. Further wells assessed with increasing or probably increasing trends across Source Areas P9, P15, P11, P16 and P21 since the 2022 monitoring include MW2499 (Q1) and MW2148 (Q1), the former following an observed concentration increase in 2022. An increasing trend was again indicated for P16 Source Area well MW2270 (Q3). At co-located Q1 well MW2120, recent concentrations appear to be trending upward, although no trend was determined for the overall data set on the basis of historically high concentrations.

At Source Area P1, an order of magnitude increase in PFOS+PFHxS concentration was reported during the 2022 monitoring period; 2023 results confirmed a probably increasing trend.

Several boundary wells indicated increasing or probably increasing trends of PFOS+PFHxS and/or PFOA, including Q2 wells MW2183 and MW2185 (both reported with increasing trends in 2022) and additionally MW2275 (Q3) and MW2137 (Q1).

8.2.2 Off-Base groundwater

Exceedances of the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07µg/L) guideline for PFOS+PFHxS at off-Base locations were consistent in magnitude and location with historical exceedances.

8.2.2.1 Statistical analysis – off-Base wells

Mann-Kendall analysis was undertaken on monitoring wells with at least six data points (typically more than eight), representative of dry season and wet season conditions, to identify any initial overall increasing or decreasing trends in PFOA and PFOS+PFHxS. Mann-Kendall analysis is shown in **Appendix E** and results are shown in **Table 28** below.

While the majority of wells indicated decreasing or probably decreasing trends, three wells indicated increasing trends. Trends are discussed in the following sections. Locations with potential or probably increasing or decreasing trends are depicted on **Figure 4.17 Appendix A**.

Table 28 Off-Base Mann-Kendall analysis results

Location	Analyte	Probably increasing trend (<95% and ≥90% confidence)	Increasing trend (>95% confidence)	Probably decreasing trend (<95% and ≥90% confidence)	Decreasing trend (>95% confidence)
Southern, western and northern boundary	PFOS+PFHxS	-	-		MW4013 (Q1)
Helps Road drain	PFOS+PFHxS	-	MW4075 (Q4)	MW4015 (Q1)	MW4001 (Q1) MW4035 (Q2) MW4045 (Q2) MW4048 (Q2) MW4069 (Q3)
	PFOA	-	MW4075 (Q4)		MW4048 (Q2) MW4069 (Q3)
Off-Base lateral extent	PFOS+PFHxS	-	MW4072 (Q1)		MW4023 (Q1) MW4219 (Q1) MW4024 (Q2)
	PFOA	-	-		
Proximity to former identified licensed Quaternary groundwater users	PFOS+PFHxS	-	MW4074 (Q3)		MW4066 (Q2) MW4073 (Q3)
	PFOA	-	MW4079 (Q4)		MW4066 (Q2)

8.2.2.2 Seasonal variation

Concentrations of PFOS+PFHxS in off-Base groundwater monitoring locations, show some minor fluctuation between monitoring events. Groundwater elevations and concentrations of PFOS+PFHxS for off-Base monitoring locations are shown in **Appendix F**. There does not appear to be any clear relationship between groundwater elevation and PFAS concentrations across off-Base monitoring wells, as such, it is not conclusive that the observed fluctuations are attributable to seasonal influences. Additional data collected in future monitoring events will be reviewed and if seasonal responses are apparent, where appropriate, Mann-Kendall tests will be performed on seasonally filtered data.

8.2.2.3 Potential increasing trends

Concentrations of PFOS+PFHxS and PFOA off-Base generally remain within historical ranges or show decreasing/stable trends with the exception of monitoring wells MW4072 (Q1), MW4074 (Q3) and MW4075 (Q4).

Exceedances of the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07µg/L) guideline for PFOS+PFHxS at off-Base locations were consistent in magnitude and location with historical exceedances with the exception of MW4075 (Q4).

An increasing trend was reported for well MW4074 (Q3). As noted in **Section 8.2.2** above, MW4074 is located in the southeast portion of the Management Area and along Bolivar Road and is the most downgradient Q3 monitoring well in this part of the Management Area. As such, there are currently no further monitoring locations downgradient to track PFAS movement within the Q3 aquifer in this area. An increasing trend in this area may indicate plume migration within the Q3 aquifer. MW4074 is indicated as having proximity to former identified licensed Quaternary groundwater users.

An increasing trend for PFOS+PFHxS is reported within the Q1 aquifer at MW4072. MW4072 is the furthest delineating cross gradient Q1 well located south of the Base. As such there are currently no further monitoring locations to the south of MW4072 to track PFAS movement within the Q1 aquifer in this area.

PFOS+PFHxS and PFOA concentrations in MW4075 (Q4) were reported an order of magnitude increased from historical maximum during both January/February and July 2023 sampling events. Mann-Kendall analysis identified increasing trends for PFOS+PFHxS and PFOA. MW4075 is located within the Kaurna Park Wetland and is the southern-most Q4 monitoring well in this part of the Management Area. As such, there are currently no further monitoring locations downgradient of MW4075 to track PFAS movement in the Q4 aquifer. It is observed that the order of magnitude increase in PFOS+PFHxS and PFOA at MW4075 is accompanied by an increase in electrical conductivity at the location. Prior to 2023, EC was reported below 3,400 µS/cm and during the 2023 sampling event EC was reported above 11,500 µS/cm. This could potentially be due to a reduction in historical leakage of less saline water from the T1 aquifer system (which reported concentrations of PFAS below laboratory LOR) into the Q4 aquifer system in the area, which could explain the increase in salinity and PFAS concentrations. Additionally, there is potential for nearby legacy bores to be acting as preferential pathways for PFAS contamination into the Q4 aquifer system. A search identified Observation bore 6628-2990 was drilled to 51.82 m bgl prior to 1957; no construction information is publicly available publicly. This observation bore (6628-2990) is located within the Kaurna Park Wetlands, which is a direct downstream receiver of water run-off from the Base. The potential exists for further unregistered bores also.

Further monitoring is required to confirm potential trends at these locations. It is noted that all wells with interpreted increasing trends are located within the GPA, with MW4075 located approximately 500 m upgradient of the Q4 GPA boundary.

8.2.2.4 Potential decreasing trends

Twelve off-Base monitoring locations reported a potentially decreasing or probably decreasing trend from Mann-Kendall statistical analysis, across the Q1 to Q3 aquifers The remaining off-Base wells indicated a stable or no trend. Additional monitoring through the continuation of the OMP monitoring events will confirm any potential decreasing at off-Base monitoring locations and confirm if any significant changes to the plume mass or extent are occurring.

It is noted that furthest down-gradient locations, including MW4055 (Q1), MW4045 (Q2), MW4076 (Q2), MW4070 (Q3), have either currently or historically reported detections of PFOS+PFHxS above the laboratory LOR such that the plume is not fully delineated by the monitoring well network. However, statistical analysis indicates that potential decreasing trends of PFAS concentrations are present at MW4045 (Q2) and clustered wells MW4053 (Q1), and MW4055 (Q1) and MW4070 (Q3) have reported concentrations of PFAS below the laboratory LOR for the past three monitoring rounds. Decreasing trends may be the result of dilution and diffusion through the aquifers and may not indicate a significant change in PFAS conditions within the management area.

8.3 Surface water

8.3.1 On-Base surface water

The PFOS+PFHxS and PFOA concentrations reported in 2023 for on-Base surface water locations were consistent with the historical results and were below the NHMRC (2019) PFAS Recreational Water guideline values of 2 µg/L for PFOS and PFHxS, and 10 µg/L for PFOA. The PFAS NEMP 2.0 (HEPA, 2020) Freshwater 95% Species Protection guideline was exceeded for PFOS at SW006, SW050 and SW054.

New maximum values for PFOS+PFHxS at SW050 (0.31 µg/L) and SW054 (0.29 µg/L) were reported in February 2023. SW050 and SW054 are located within the southern detention basin and adjacent to Source Area P10. These increased concentrations are likely attributable to increased surface water run off due to higher-than-average rainfall in previous months and stagnant water at the time of sampling the southern detention basin. First time detections of PFOA above the LOR were also reported at SW050 and SW054 in February 2023 but were below the adopted criteria.

The surface water results suggest the current monitoring locations are adequate to monitor PFAS in surface water across on-Base areas and are not indicative of any need to review assessment of human health or ecological risk on-Base.

8.3.2 Off-Base surface water

Surface water monitoring locations off-Base reported results generally within the historical range, except for SW012, SW062, SW032 and SW078 which reported new maximum PFAS values and all of which observed no or minimal flow.

New maximum values were reported for PFOS+PFHxS at SW012 (0.47 µg/L) and SW062 (0.28 µg/L) and PFOA at SW062 (0.032 µg/L), in February 2023. SW012 and SW062 are downstream of the southern detention basin and these new maxima are likely attributable to higher-than-average rainfall in the previous months mobilising on-Base PFAS in the topsoil.

A first-time detection marginally above the LOR was recorded for PFOS+PFHxS (0.03 µg/L) at SW032. SW032 is an upstream location and hence this first-time detection is not attributed to any on-Base activities.

New maximum values were reported at SW078 during the July 2023 sampling event for PFOS+PFHxS (0.79 µg/L) and PFHxS (0.35 µg/L). A first-time detection above the LOR was recorded at SW078 for PFOA (0.02 µg/L). A new exceedance of the ecological screening criterion was reported at SW078 for PFOS (0.44 µg/L).

SW078 is located south-west of the Base within the Helps Road Drain; PFAS concentrations at up-gradient locations remain consistent with historical results. Further monitoring may assist in identifying the cause of the new maximum concentrations, noting that there are numerous upgradient sites unrelated to Defence activities that could be contributing to the concentrations reported in SW078.

9.0 Discussion

9.1 Conceptual site model

The CSM was developed during the investigation and human health risk assessment stages (JBS&G, 2019a, JBS&G, 2019b) and summarised in the PMAP (Defence, 2019). The CSM summarises the linkages between sources, exposure pathways and receptors.

The OMP monitoring over the monitoring period January 2023 to October 2023 discussed in this report has provided additional data to further understand the nature and extent of PFAS concentrations in groundwater and surface water. Key observations included:

- PFAS concentrations were generally within historical ranges or within an order of magnitude of historical results with the exception of MW4075 (Q4).
- The majority of identified concentration trends in groundwater wells are decreasing or probably decreasing, consistent with the absence of ongoing primary sources of PFAS contamination; however, increasing trends are observed in a number of Source Area groundwater wells, potentially indicating secondary sources continue to impact groundwater, noting higher-than average rainfall experienced in late 2022 and early 2023. The effect of soil remediation works on lessening ongoing impact to groundwater is still to be observed.
- Temporal data provides some evidence of a correlation between groundwater elevation and groundwater PFAS concentrations in the vicinity of Source Areas, indicating likely seasonal variability in groundwater concentrations near to sources.
- Increasing trends in selected Q1 and Q2 wells at the downgradient Base boundary indicate the potential for increases downgradient of the Base within the Management Area. The distribution of wells spatially and vertically across the Management Area is sufficient to assess contamination trends in the quaternary aquifers through ongoing monitoring.

While minor variations to the nature and extent of the PFAS plume and concentrations have occurred, the PFAS transport mechanisms are unchanged, and changes to concentrations across the monitoring extent have not constituted changes to the risk profile for the Base. The concentration range reported for groundwater and surface water monitoring locations for the monitoring period are shown in figure series **Figure F4** and **Figure F6** (**Appendix A**).

When compared to the available historical dataset, the additional OMP data indicates that the nature and extent of PFAS impacts in groundwater and surface water is largely unchanged since the CSM was developed in the DSI (JBS&G, 2019a).

The data presented in this report do not change the overall assessment of CSM sources, pathways and/or receptors as described during the investigation stages (JBS&G, 2019a) and summarised in the PMAP (Defence, 2019).

9.2 Risk profile

Surface water and groundwater data collected during the OMP do not suggest a change in the risk profile for on-Base human health receptors and are mostly unchanged to off-Base human health receptors associated with exposure with to PFAS in groundwater and surface water.

For the monitoring period it is seen that the change in groundwater PFAS concentrations are limited and do not constitute a change in risk profile for the Base or the surrounding management zones. The fundamentals of the previously derived CSM are supported by the data collected over the monitoring period, as discussed in **Section 9.1.** In most cases, PFAS concentrations in groundwater fall within historical ranges. Potentially increasing trends at on-Base Source Area locations are potentially associated with the higher-than average rainfall experienced in late 2022 and early 2023.

The nature and extent of PFAS in groundwater off-Base reflects the conditions historically observed. All off-Base groundwater locations that qualified for statistical analysis reported potentially decreasing trends, stable concentrations or no trend, except for MW4072 (Q1), MW4074 (Q3) and MW4075 (Q4), each of which identified increasing trends. These wells are discussed below:

- MW4072 (Q1 screened from 10-13m bgl), which is located down and cross hydraulic gradient of the Base, reported an increasing concentration trend for PFOS+PFHxS. Despite the increasing trend, concentrations are only marginally above laboratory LOR, and remain below adopted human health guidelines. A review of this risk profile in this area concluded that a potential receptor in the vicinity of this well is no longer able to extract groundwater since the Stage 1 and 2 Groundwater Prohibition Area (GPA) was established by the EPA in February 2022 and 2023 respectively. As such, there is no complete exposure pathway to this receptor, and no change to the risk profile is warranted.
- MW4074 (Q3 screened from 33-39m bgl) which is indicated as having proximity to former identified licensed Quaternary groundwater users, reported increasing trends for PFOS+PFHxS. A review of this risk profile in this area concluded that a potential receptor in the vicinity of this well is no longer able to extract groundwater since the Stage 1 and 2 GPA was established by the EPA in February 2022 and 2023 respectively. As such, despite ongoing criteria exceedance since 2022 at MW4074, there is no complete exposure pathway to this receptor, and no change to the risk profile is warranted.
- MW4075 (Q4 screened from 45-48m bgl) reported an order of magnitude increase from 2022 results. JBS&G confirmed that vertical leakage from the quaternary aquifers is occurring; a review of this risk profile concluded that a potential receptor in the vicinity of this well is possible through vertical leakage in the T1 aquifer which is used for irrigation purposes. Monitoring of the tertiary system is warranted to assess whether unacceptable leakage of PFAS impacts from the quaternary system is occurring. It should be noted however nearby Department of Environment and Water T1 observation bore (MW4220) is part of the OMP sampling network and has reported concentrations <LOR since July 2020. The salinity of the tertiary system is not acceptable for drinking water; as such, the primary use for extraction of the tertiary system is irrigation.

Concentrations of PFOS and PFHxS in surface water remain similar to previous results throughout the Management Area, with reported concentrations staying within historical ranges. The conditions within the Management Area are unchanged from the findings of the DSI (JBS&G, 2019a).

While minor variations to the nature and extent of the PFAS plume and concentrations have occurred, the PFAS transport mechanisms are unchanged, and changes to concentrations across the monitoring extent have not constituted changes to the risk profile for the Base.

9.3 Assessment of current OMP

Based on an evaluation of the data presented in this report, an OMP (Defence, 2019) specified trigger was met (increasing trends in wells MW4072, MW4074 and MW4075). As noted above, however establishment of the GPA and other factors indicate that no change to the risk profile is currently indicated by increasing trends in the quaternary aquifers. However, the monitoring results for Q4 well MW4075 located approximately 500 m from the GPA boundary indicate that further delineation of impacts within the Q4 aquifer is appropriate and that assessment of the T1 aquifer is warranted to assess possible impacts associated with leakage from the quaternary aquifer system.

It is understood that off-Base stakeholders have requested off-Base soil and groundwater sampling of tertiary bores. Sampling of an additional off-Base T1 bore may provide data to determine if potential vertical migration from the quaternary aquifer systems is occurring.

Other than the above, there are no significant changes to the understanding of the nature, extent or risks associated with PFAS at the Base or within the Management Area, or the need for monitoring of additional media.

10.0 Conclusion

Groundwater and surface water monitoring were completed between January and October 2023 in accordance with the SAQP (AECOM, 2022a, AECOM, 2020d), **Appendix B**.

The monitoring conducted over the current period is considered to have met the objectives of the SAQP, **Appendix B**, and the overall ongoing monitoring plan.

The results for the monitoring period indicate that the nature and extent of PFAS in groundwater and surface water is consistent with previous findings.

Highest concentrations of PFAS within the groundwater monitoring network are associated with identified PFAS Source Areas on-Base and this is consistent with the identified PFAS plume (Defence, 2019). Increasing and potentially increasing trends noted in a minority of wells on-Base were associated with or downgradient of Source Areas, indicating potential ongoing contribution to groundwater impacts from secondary soil sources, noting however higher-than average rainfall experienced in late 2022 and early 2023. Remedial works are expected to reduce the PFAS contributions to groundwater over time. Correlation between groundwater elevation and PFAS concentrations at selected wells is consistent with seasonal influences on PFAS concentrations at these Source Areas.

Increasing trends in PFAS groundwater concentrations were identified in three wells within the Management Area down-gradient of the Base.

The CSM was reviewed, and based on the results presented within this report, no changes were identified to source, pathway or receptors at the Base and within the Management Area.

Based on the data collected during the monitoring period, the risk profile has not changed within the Management Area.

The groundwater and stormwater monitoring networks are considered generally appropriate and sufficient for the program objectives, with the following observations:

- It is understood that off-Base stake holders have requested off Base soil and groundwater sampling of tertiary bore on the property (6628-3009).
- Further delineation of Q4 PFAS impacts is appropriate given the observation of increasing concentration trends in the most down-gradient well and its proximity (approximately 500 m) to the boundary of the corresponding GPA.
- Sampling of an additional off-Base T1 bore may provide data to determine if potential vertical migration from the quaternary aquifer systems is occurring.

11.0 References

AECOM (2023a). *Sampling Event Factual Report – January and February 2023.* prepared for Department of Defence, 25 August 2023

AECOM (2023b). *Sampling Event Factual Report, July 2023.* prepared for Department of Defence, 21 December 2023.

AECOM (2022a). *Sampling and Analysis Quality Plan - RAAF Base Edinburgh.* prepared for Department of Defence, 24 January 2022.

AECOM (2022b). *Sampling Event Factual Report – January and February 2022.* prepared for Department of Defence, 27 September 2022.

AECOM (2022c). *Sampling Event Factual Report, July 2022.* prepared for Department of Defence, 8 September 2022.

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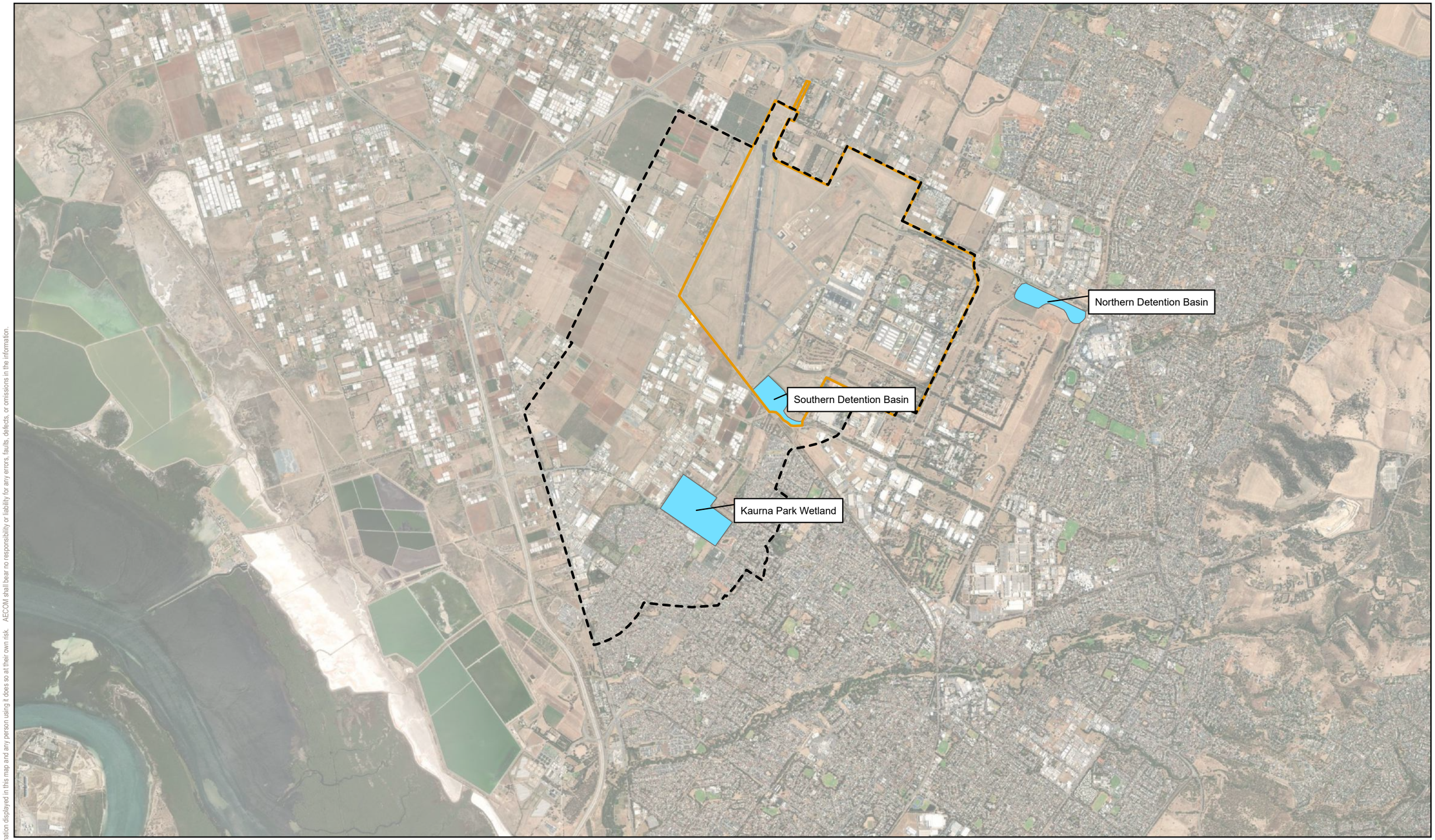
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Appendix A

Figures



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Kilometre

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LEGEND

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Management Area

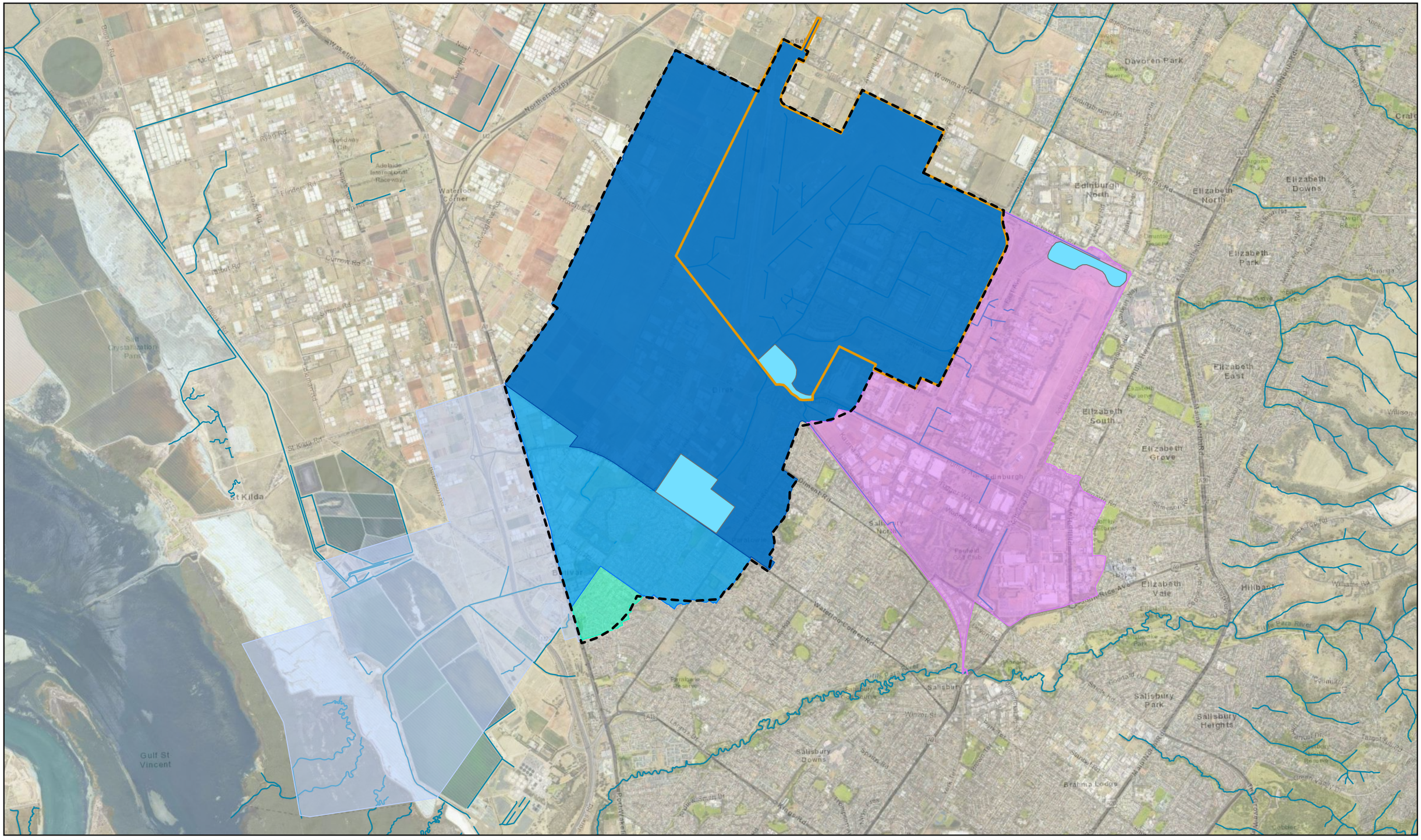
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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

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LEGEND

- Management Area
- RAAF Base Edinburgh Boundary
- Refined Investigation Area
- Detention Basin
- Drainage Pathways

Groundwater Prohibi t on Area

- Edinburgh Stage 2 (0–20 m below ground level)
- Edinburgh Stage 1 (0–30 m below ground level)
- Edinburgh Stage 1 (0–45 m below ground level)
- Edinburgh Stage 1 (0–60 m below ground level)
- Elizabeth South

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Groundwater Prohibition Area

PROJECT ID	60612561
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LAST MODIFIED	CUMMINGSL 16 JUL 2024
VERSION:	1

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ID	CSR Site
P1	AFFF wastewater retention tank and AFFF wastewater evaporation pond
P2	The Base's bulk fuel storage facility including an automated AFFF deluge system
P3A/P3B	AFFF wastewater retention infrastructure, the Chesterfield Stumps
P4	Former fire training area and sub-surface waste dump (Site 19)
P8	Sub-surface waste dump (Site 16)
P9	Current fire training area, including smokeroom training building (Building 618)
P10	Former sewage treatment plant (STP) and fire training area
P11	Current fire station and former AFFF concentrate storage area
P15A	Former fire training area in the Ordinance Unloading Area
P15B	Former fire training area in the Ordinance Unloading Area
P16	Former fire training area around the Engine Run-up facility
P21	Former fire training area along Taxiway Bravo
P23	Site of train and semi-trailer crash
P27	Suspected former fire training area

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LEGEND

- PFAS Source Area
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

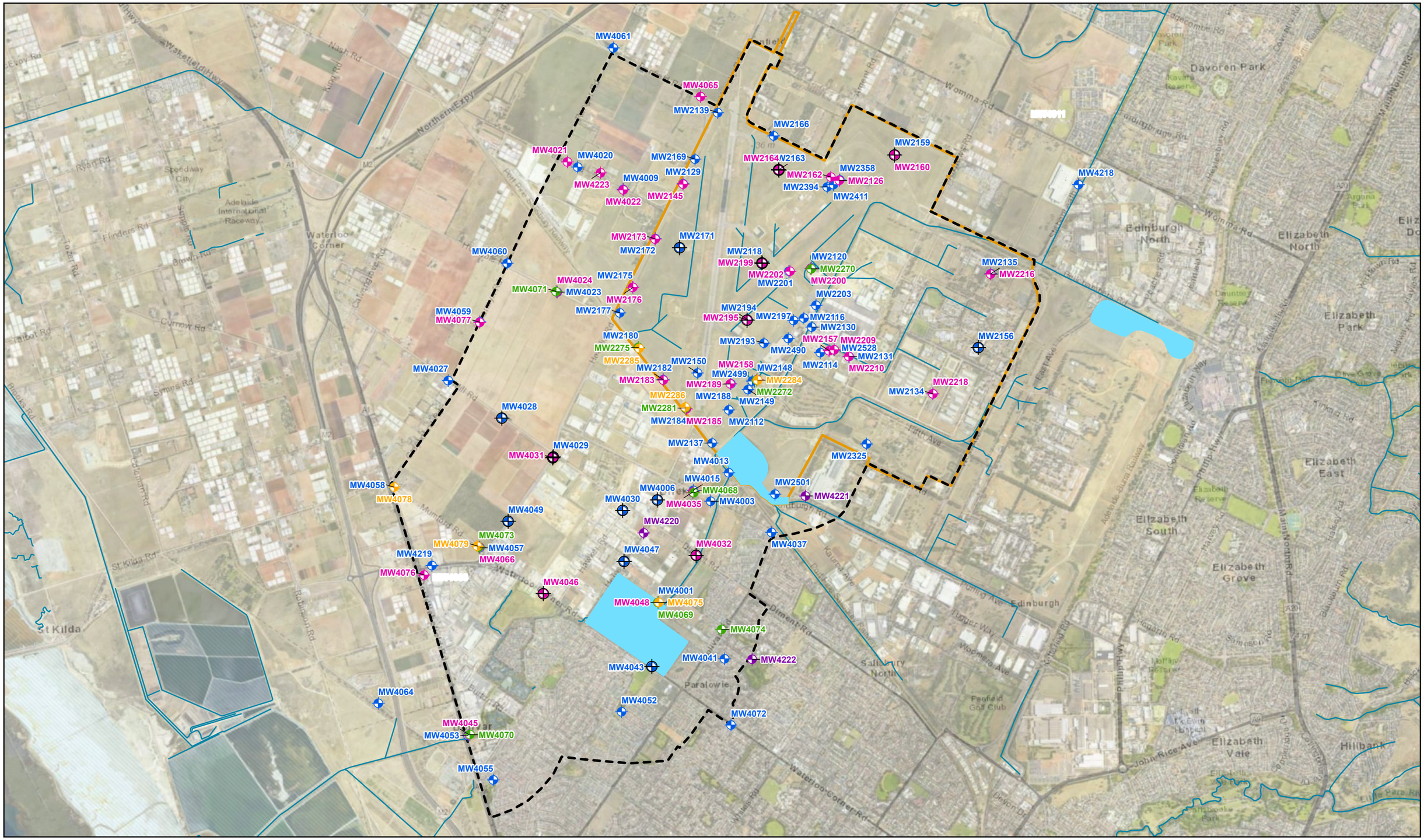
Inferred PFAS Source Areas

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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

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LEGEND

- Gauging Locations Only
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Sample Locations

- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

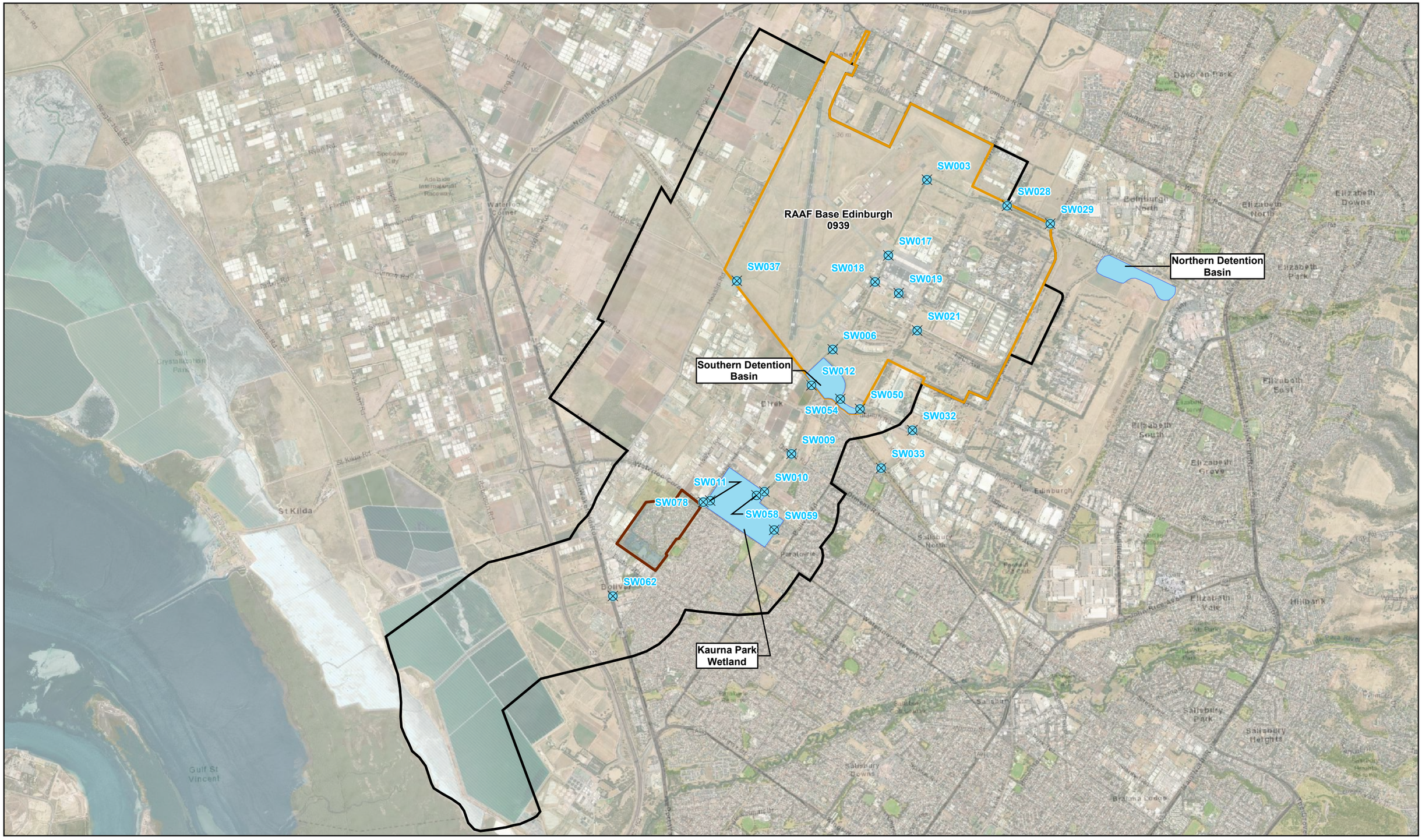
Groundwater Sample Locations

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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure A2

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Legend

- Surface Water Sample Locations
- Springbank Waters Estate
- Refined Investigation Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

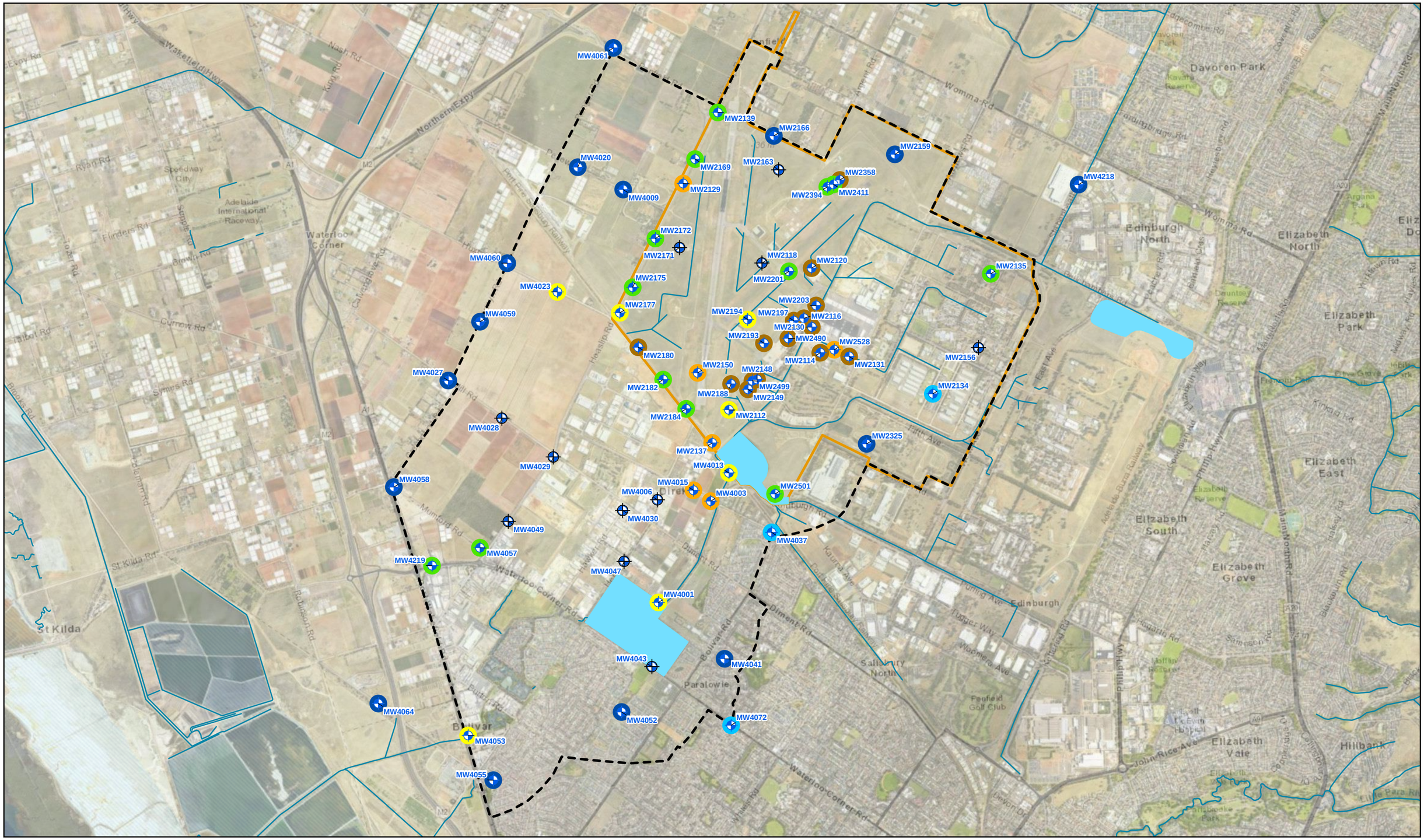
Surface Water Sample Locations

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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

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LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

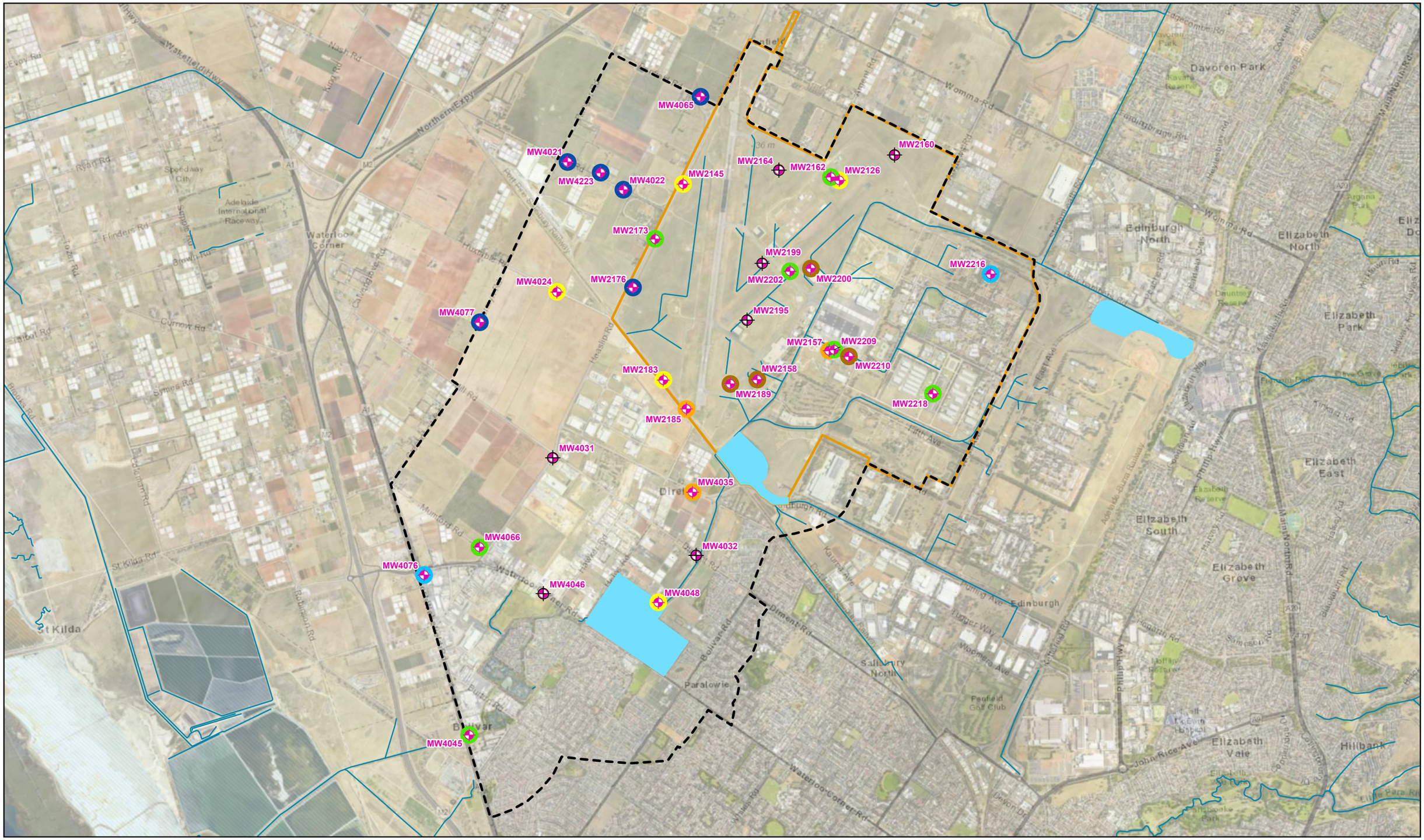
PFOS+PFHxS Concentrations in Groundwater
Q1 Aquifer
January/February 2023

PROJECT ID	60612561
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VERSION:	1

Figure
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Kilometre

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LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater Q2 Aquifer January/February 2023

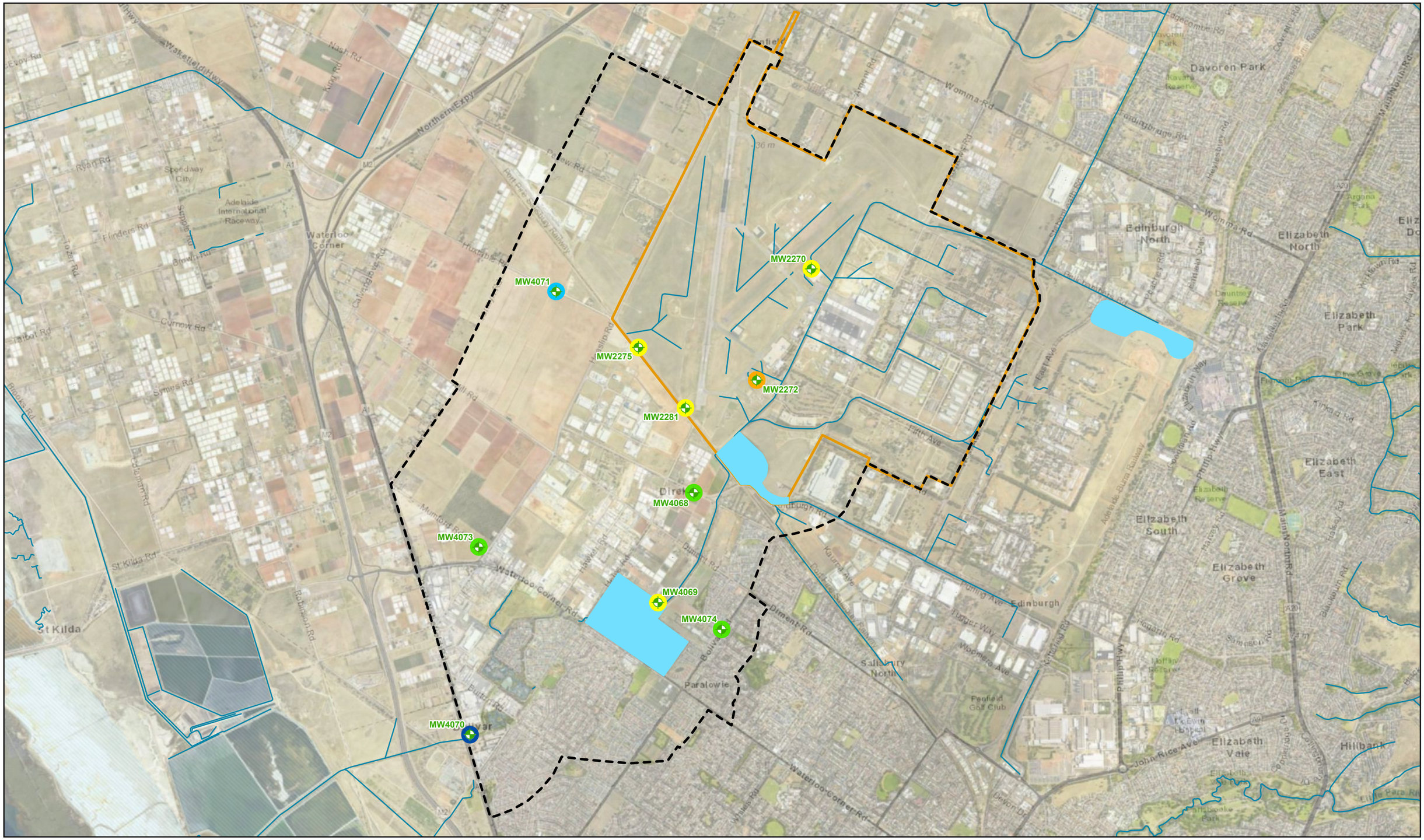
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VERSION:	1

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Kilometre

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LEGEND

Sample Locations
- Q3 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations
- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

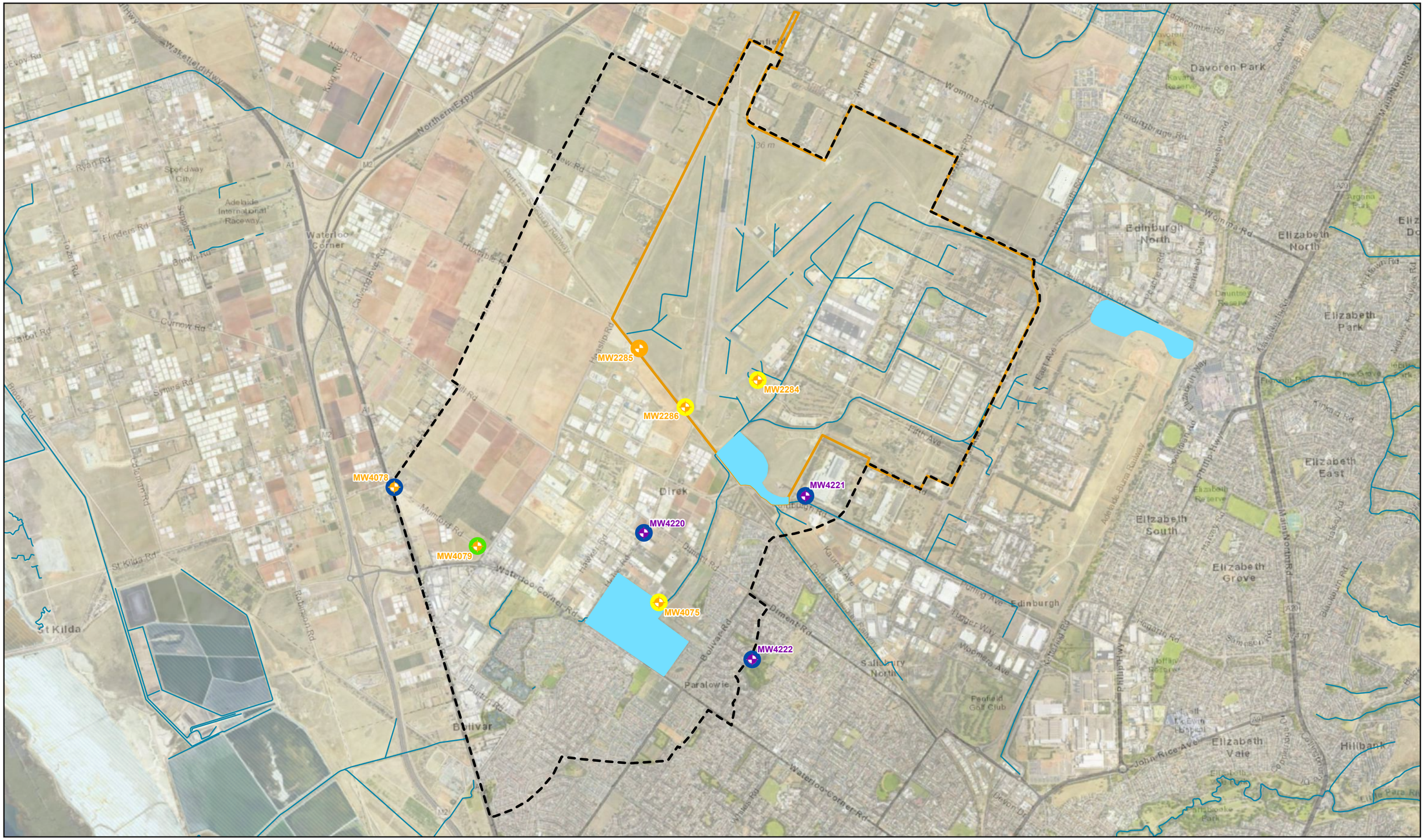
PFOS+PFHxS Concentrations in Groundwater Q3 Aquifer January/February 2023

PROJECT ID	60612561
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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
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Kilometre

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LEGEND

Sample Locations
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations
- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater Q4 and T1 Aquifer January/February 2023

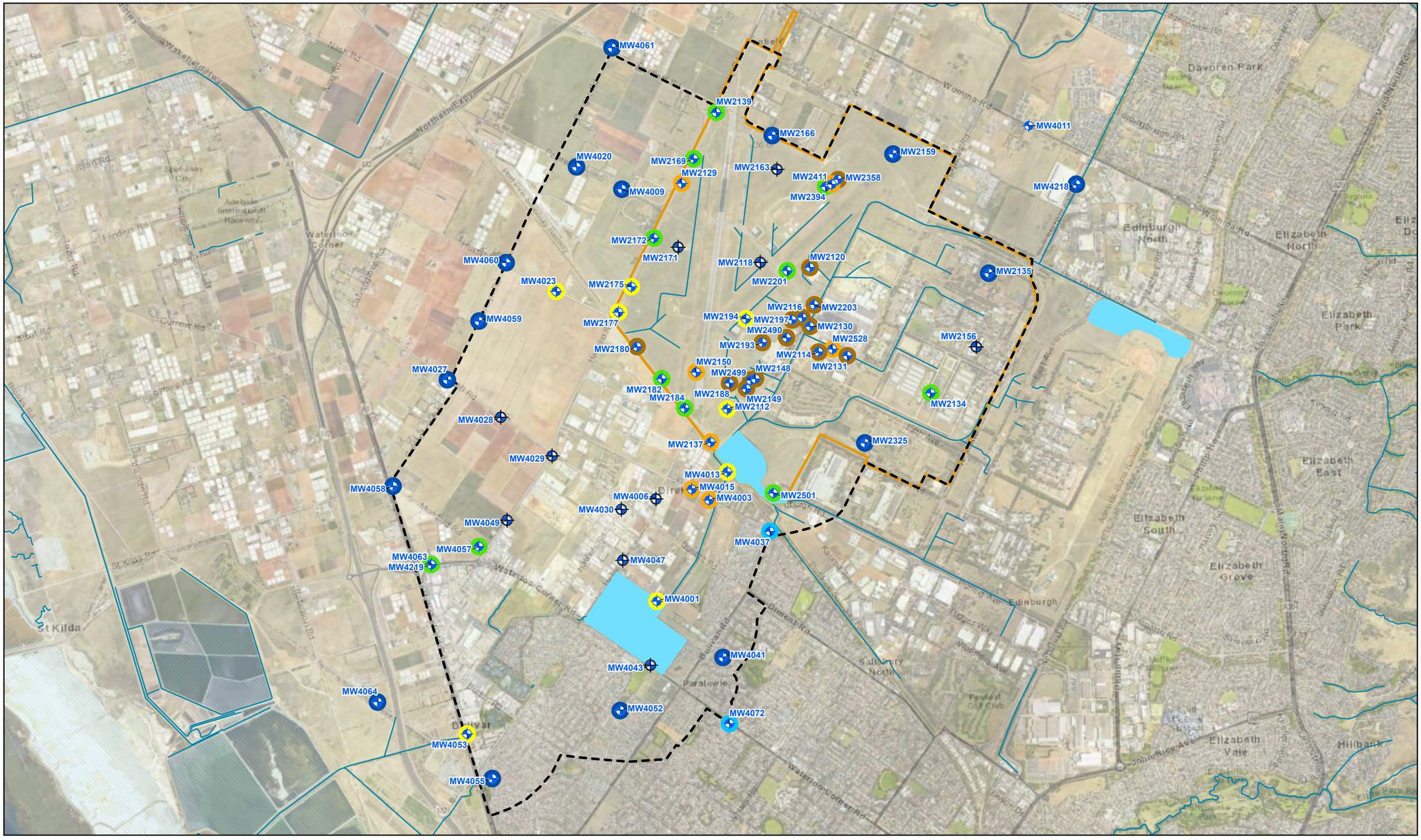
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CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

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LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q1 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

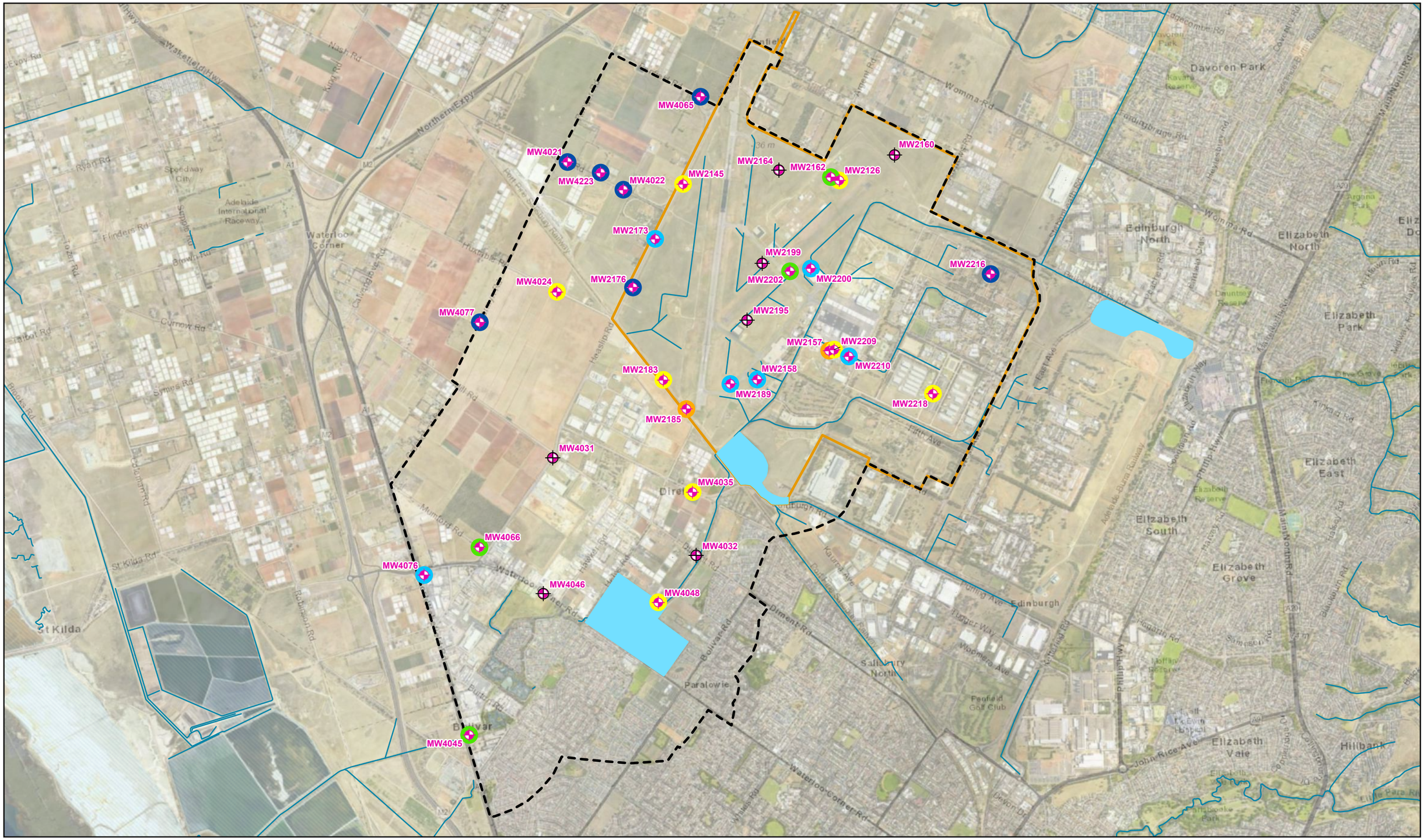
PFOA Concentrations in Groundwater
Q1 Aquifer
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 12 DEC 2023
VERSION:	1

Figure
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LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q2 Aquifer
July/October 2023

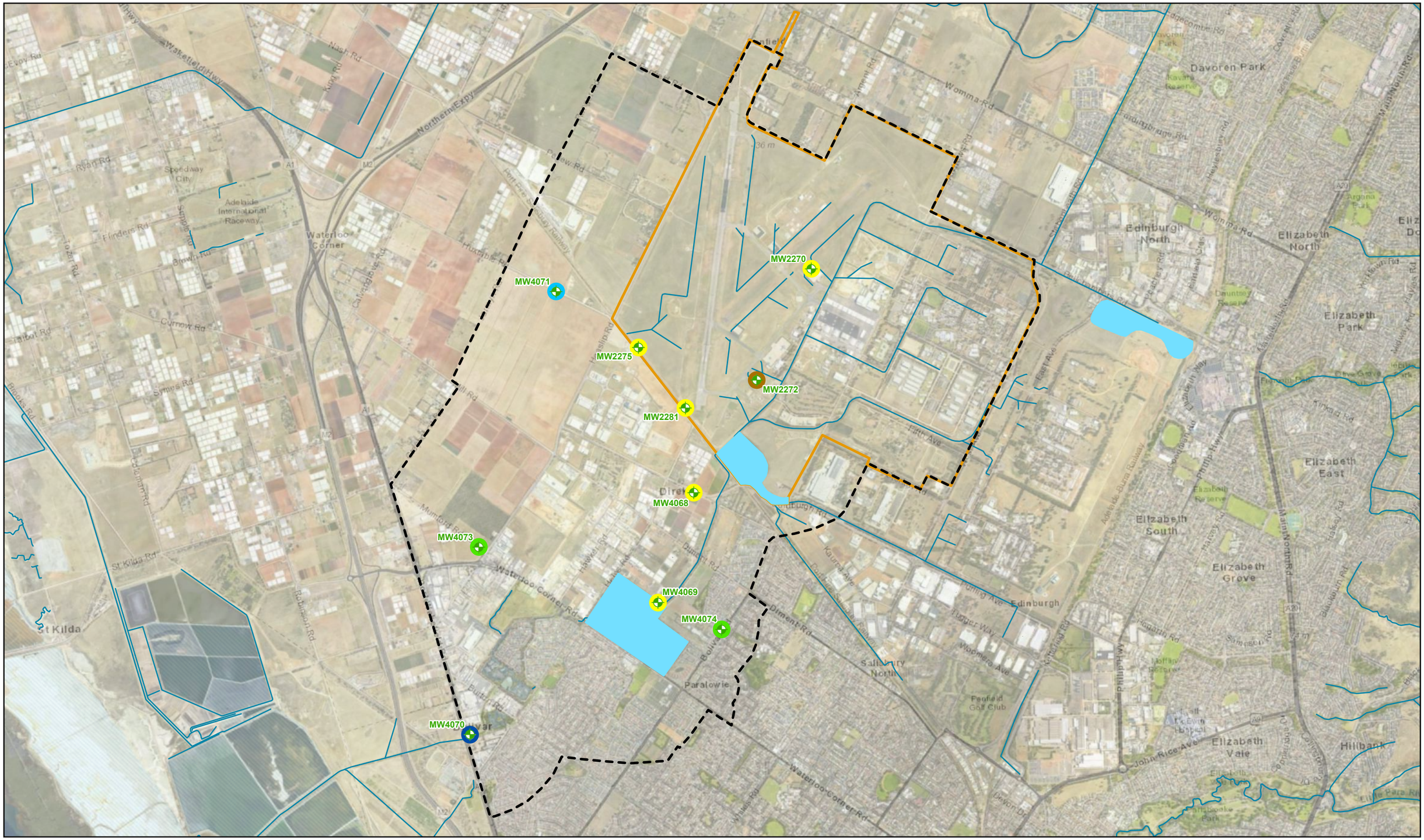
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VERSION:	1

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Kilometre

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LEGEND

Gauging Locations Only

Sample Locations
Q3 Aquifer

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Concentrations
- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

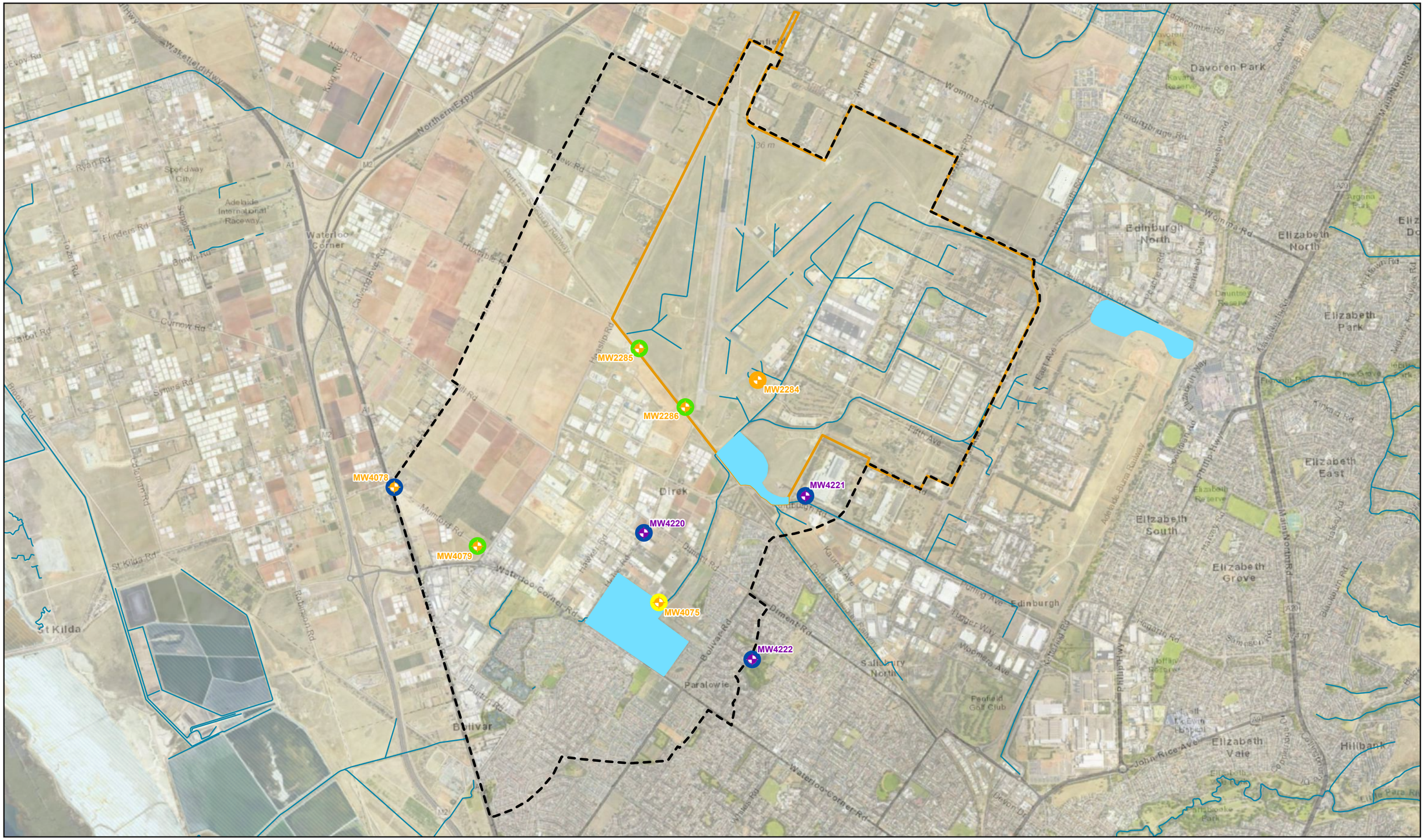
PFOS+PFHxS Concentrations in Groundwater
Q3 Aquifer
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.7

A3 size

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A47_EDN_2022_01_028, Last exported: 6/09/2022 3:32 PM



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N

GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only

Sample Locations

- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

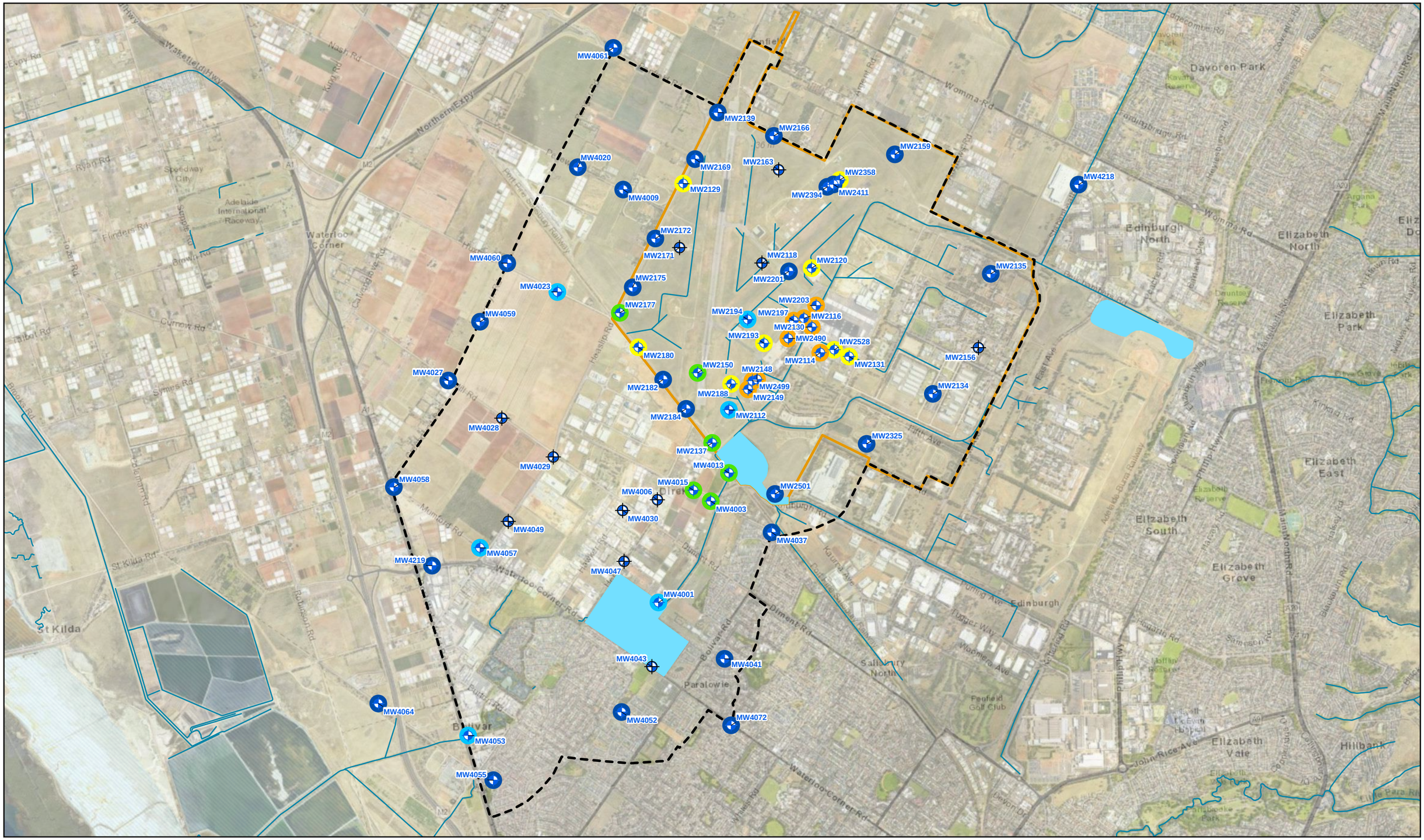
PFOS+PFHxS Concentrations in Groundwater Q4 and T1 Aquifer July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.8

A3 size

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A48_EDN_2022_01_029, Last exported: 6/09/2022 3:32 PM



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0 0.5 1 2
Kilometre

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LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q1 Aquifer
January/February 2023

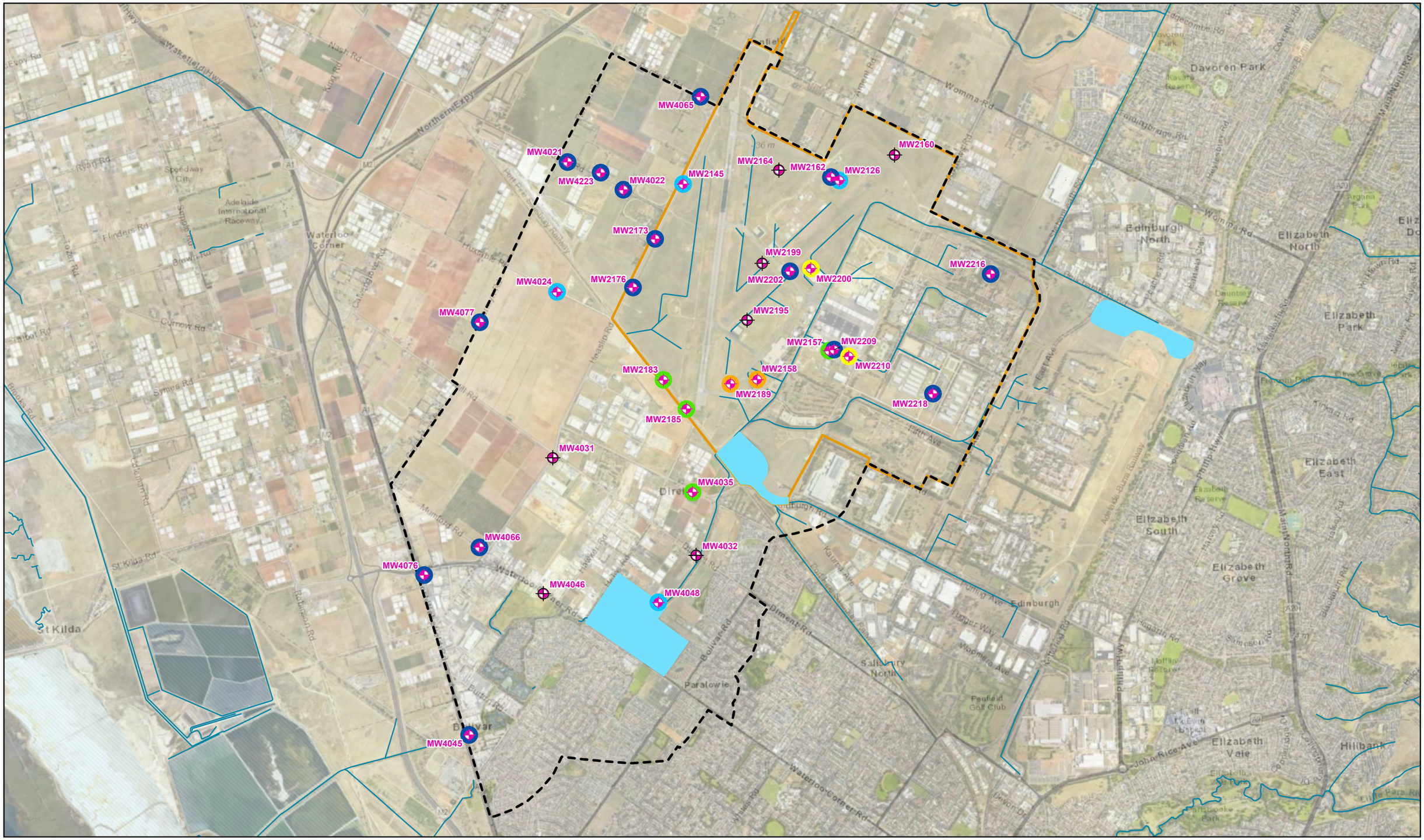
PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure

A4.9

A3 size

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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

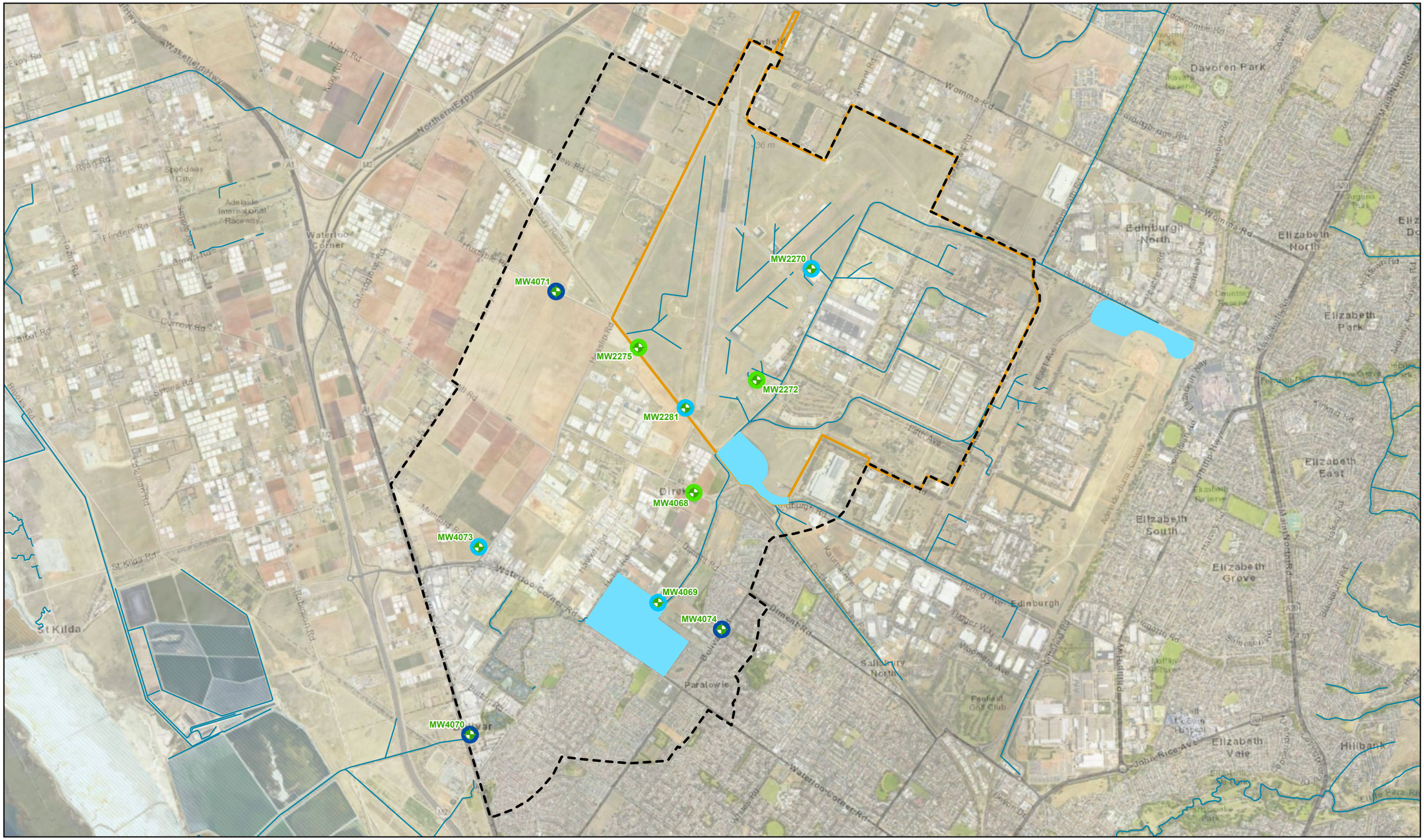
PFOA Concentrations in Groundwater
Q2 Aquifer
January / February 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.10

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A410_EDN_2022_01_011, Last exported: 6/09/2022 3:32 PM

A3 size



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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q3 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

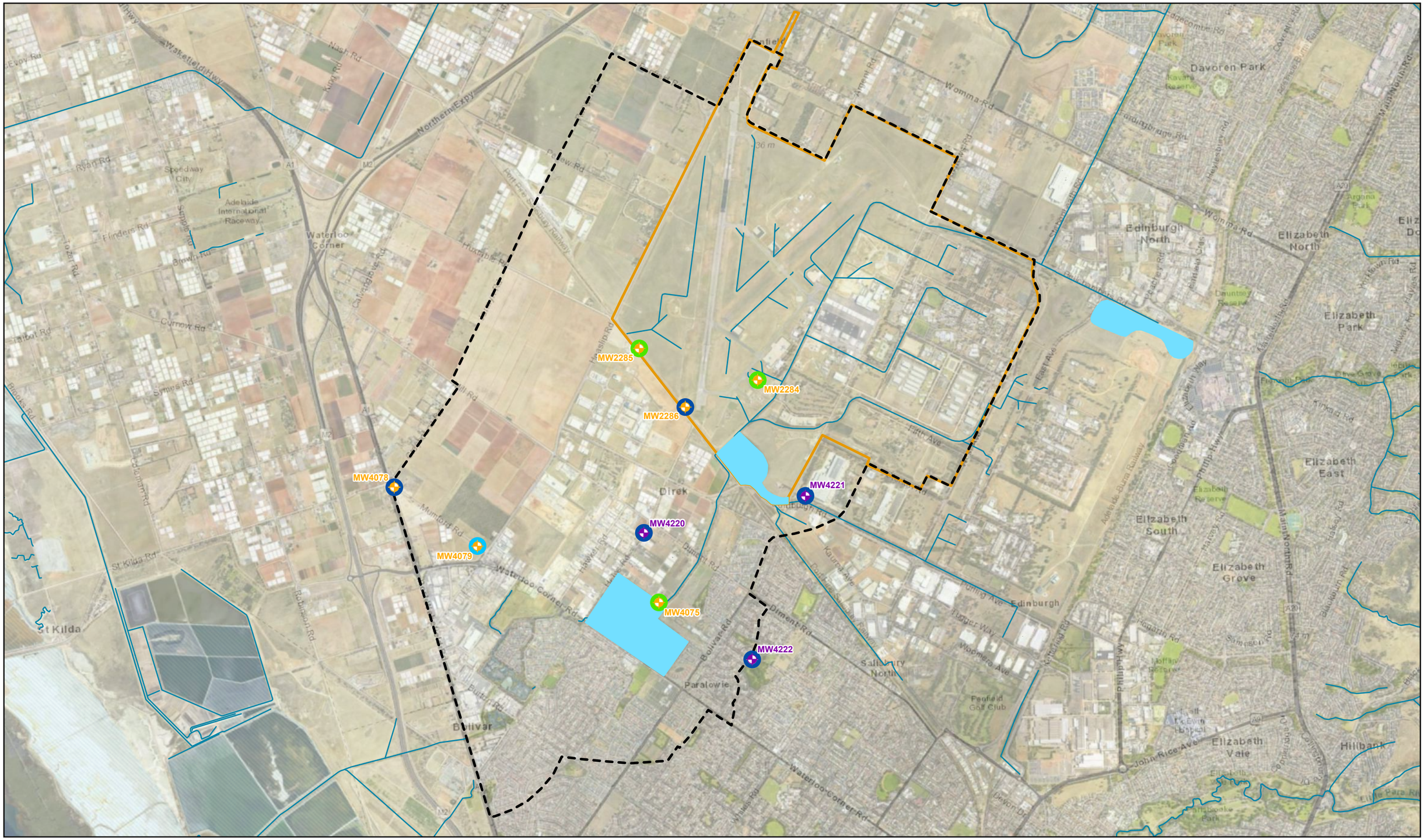
PFOA Concentrations in Groundwater Q3 Aquifer January / February 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure A4.11

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A411_EDN_2022_01_012, Last exported: 6/09/2022 3:32 PM

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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only

Sample Locations

- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

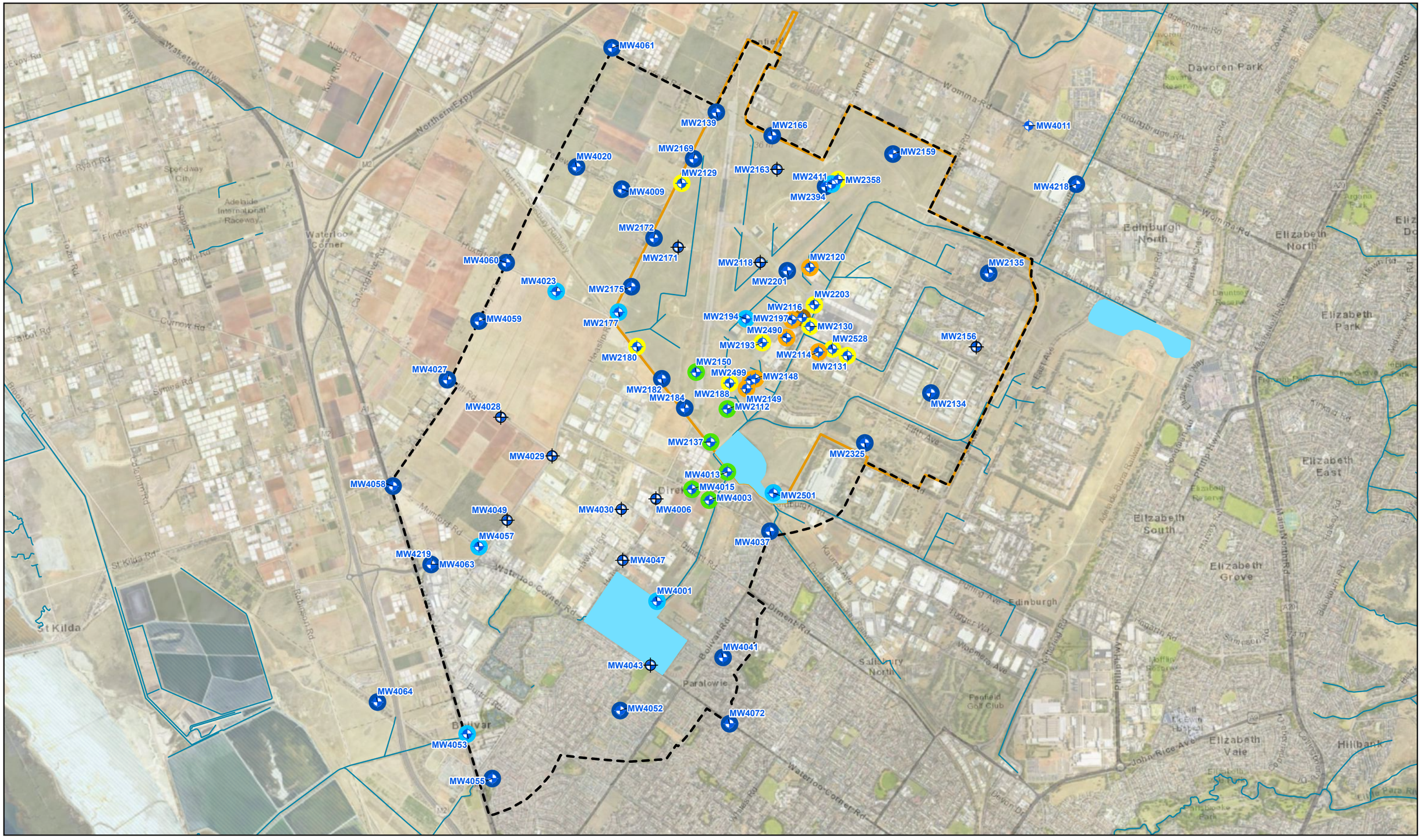
PFOA Concentrations in Groundwater Q4 and T1 Aquifer January/February 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure A4.12

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A412_EDN_2022_01_013, Last exported: 6/09/2022 3:32 PM

A3 size



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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations
Q1 Aquifer

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Concentrations
- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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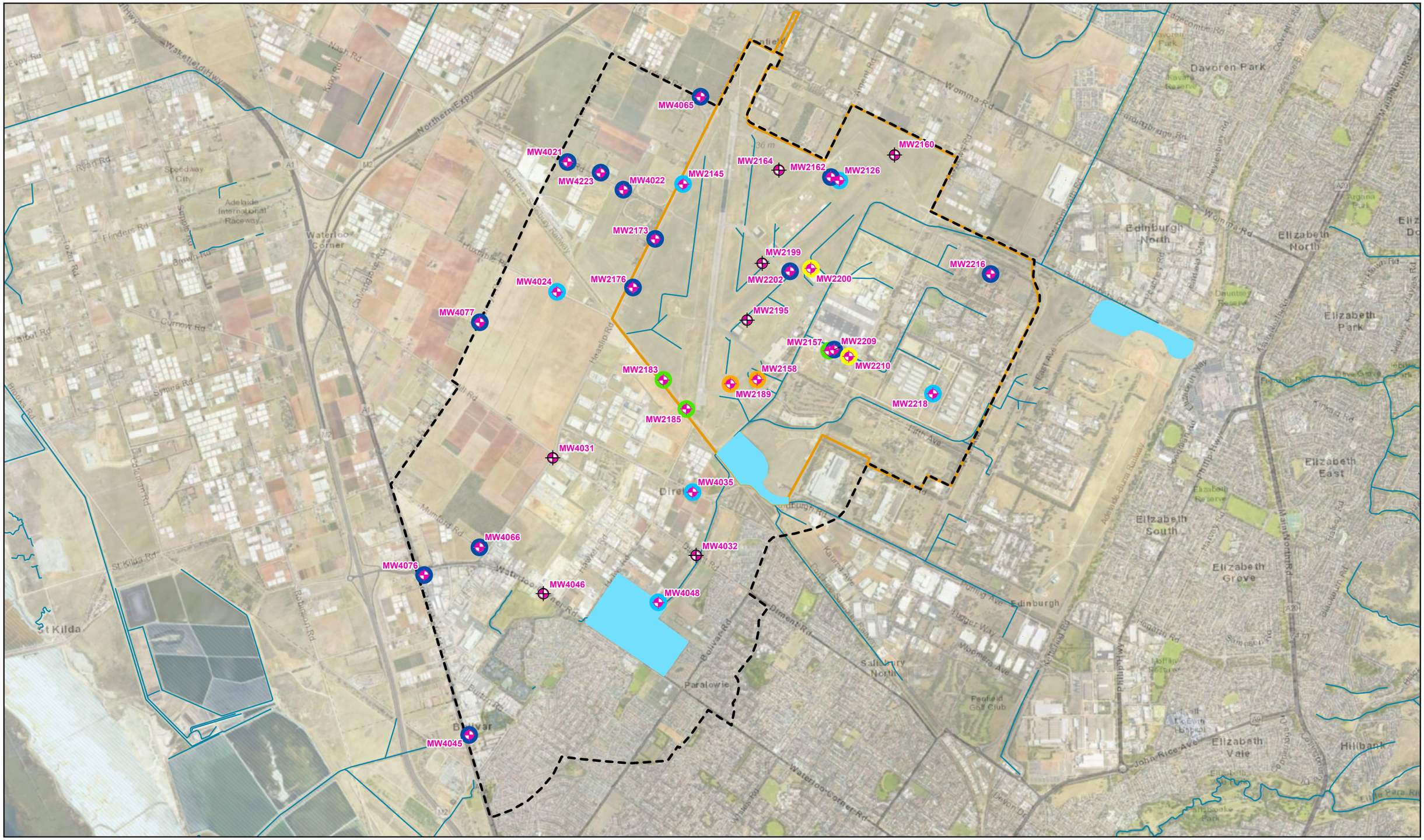
PFOA Concentrations in Groundwater
Q1 Aquifer
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.13

A3 size

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A413_EDN_2022_01_030, Last exported: 6/09/2022 3:32 PM



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GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q2 Aquifer
July/October 2023

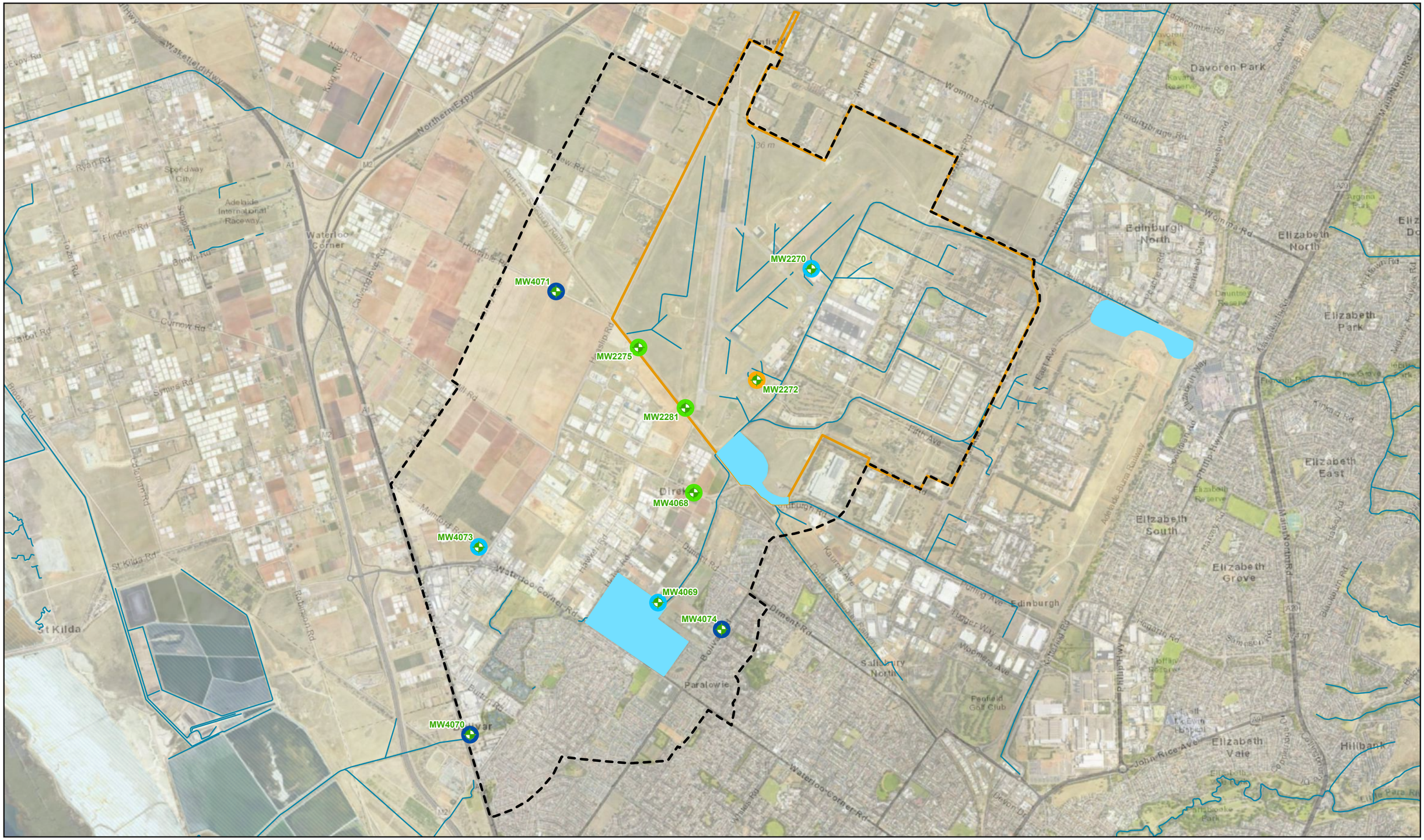
PROJECT ID	60612561
CREATED BY	CUMMINGSL
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VERSION:	1

Figure
A4.14

A3 size

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0 0.5 1 2

Kilometre

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LEGEND

Gauging Locations Only

Sample Locations

Q3 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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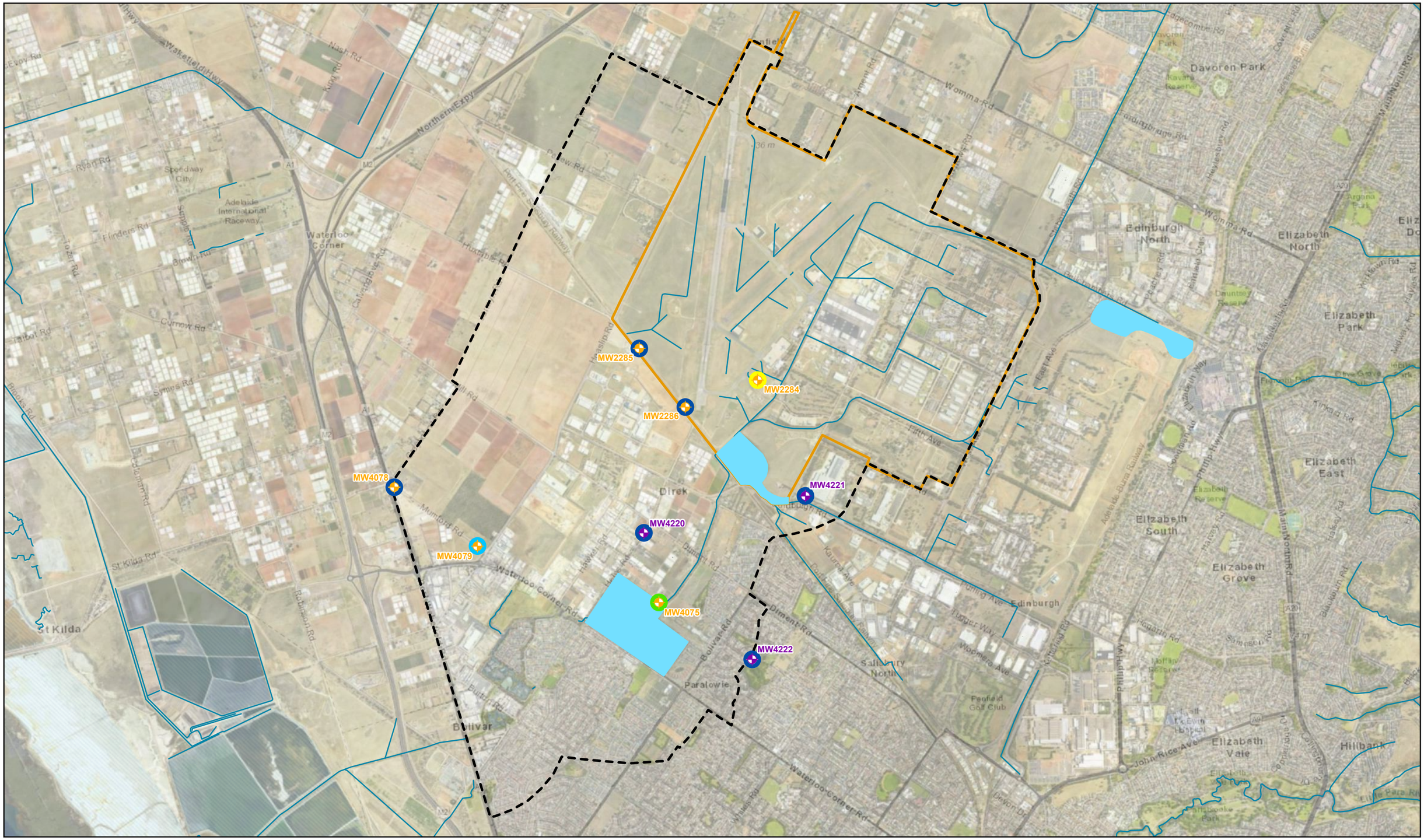
PFOA Concentrations in Groundwater
Q3 Aquifer
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.15

A3 size

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A415_EDN_2022_01_032, Last exported: 6/09/2022 3:32 PM



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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q4 Aquifer
  - T1 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

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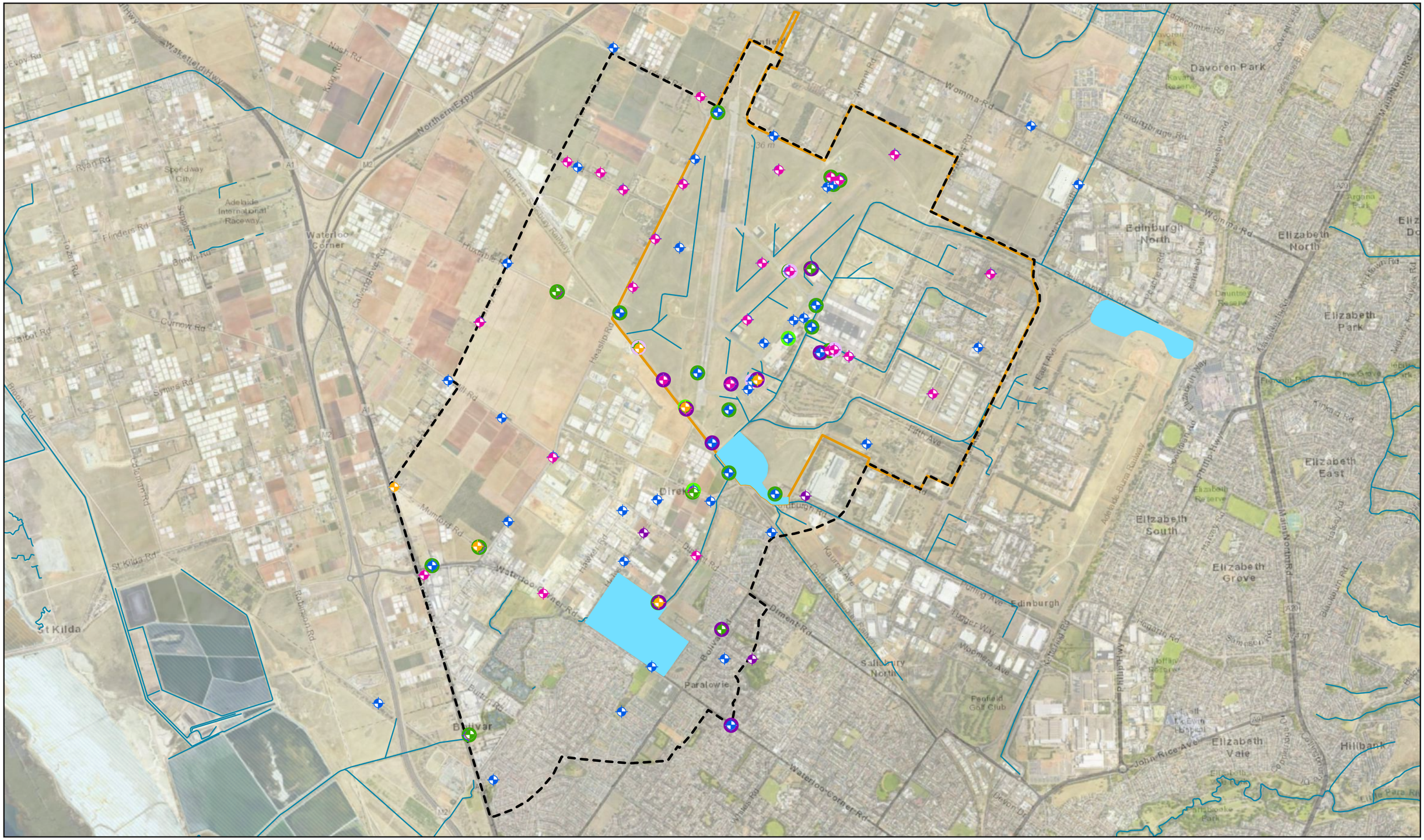
PFOA Concentrations in Groundwater Q4 and T1 Aquifer July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.16

A3 size

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Kilometre

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LEGEND

Sample Locations
- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Drainage Pathways

PFHXS+PFOS concentration trends (Mann-Kendall)
- Decreasing
- Probably Decreasing
- Probably Increasing
- Increasing

Only locations with sufficient data for Mann-Kendall analysis are shown

Data sources:

Base Data: Imagery (c) 2017 ESRI

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PFHXS+PFOS concentration trends (Mann-Kendall)

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LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.17

A3 size

Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A417_EDN_2022_01_014, Last exported: 6/09/2022 3:32 PM

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Kilometre

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LEGEND

Sample Locations
- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

PFOA concentration trends (Mann-Kendall)
- Decreasing
- Probably Decreasing
- Probably Increasing
- Increasing

Only locations with sufficient data for Mann-Kendall analysis are shown

Data sources:

Base Data: Imagery (c) 2017 ESRI

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ANNUAL INTERPRETIVE REPORT

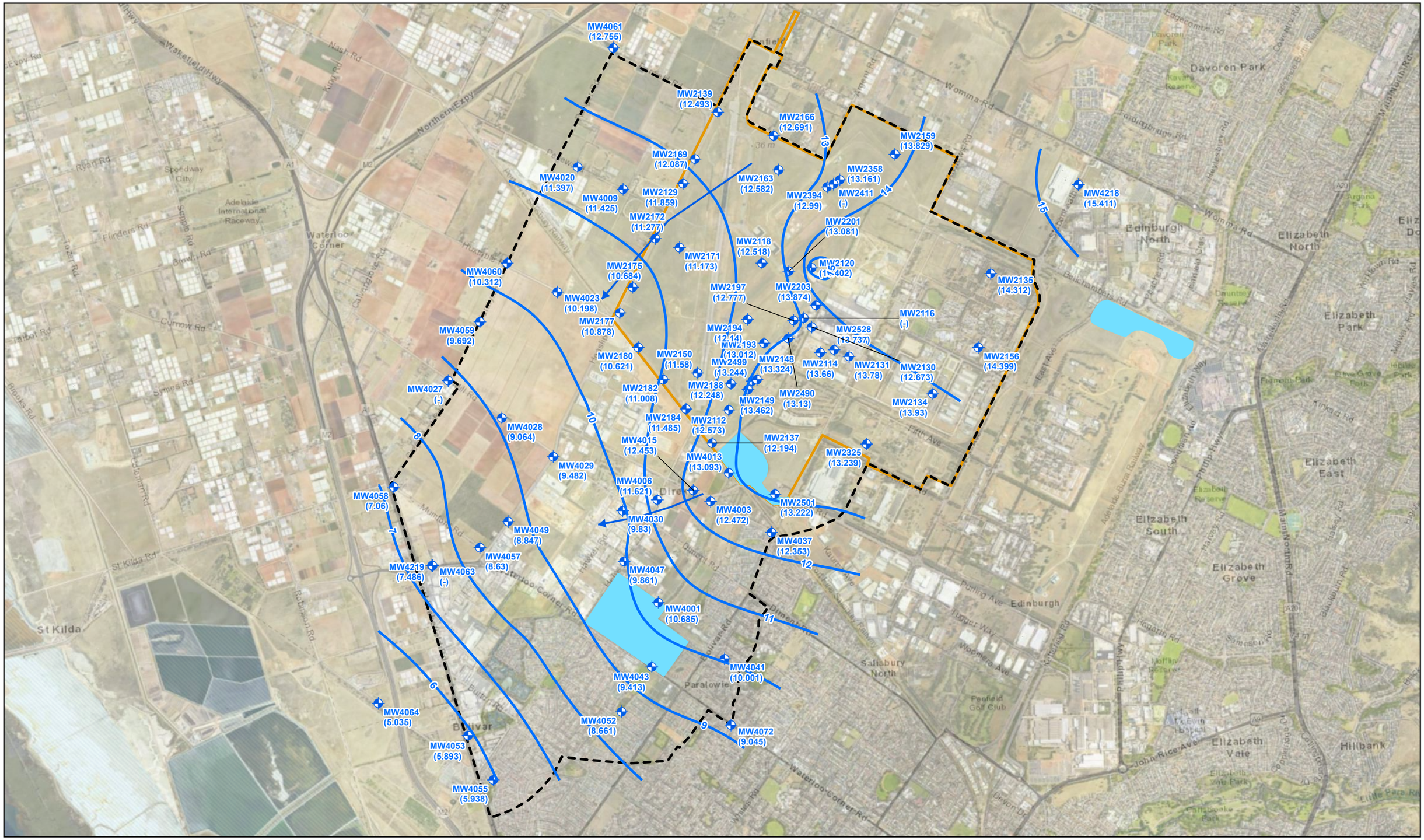
PFOA concentration trends (Mann-Kendall)

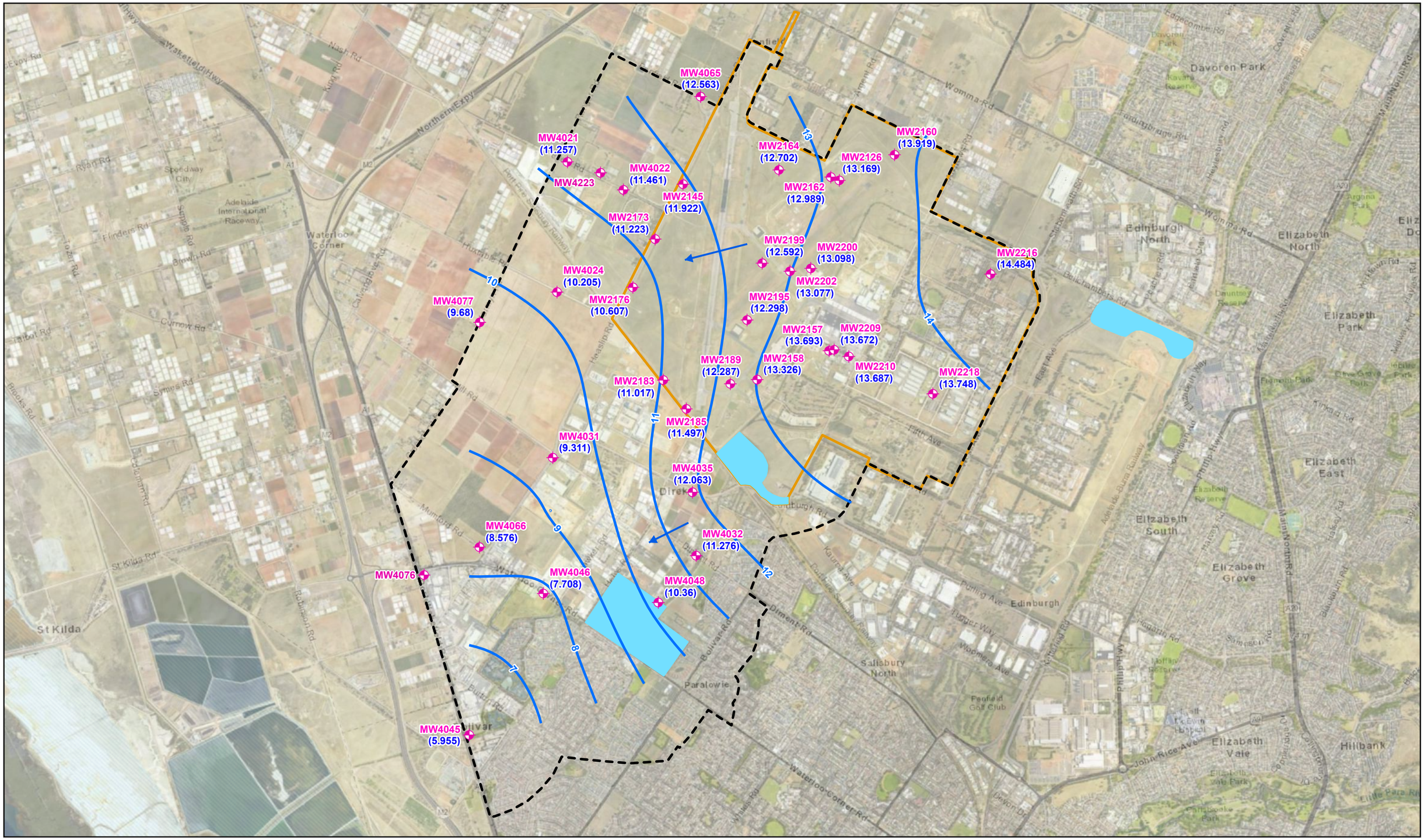
PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A4.18

A3 size

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MW4061 (12.755)
MW2139 (12.493)
MW2166 (12.691)
MW2159 (13.829)
MW2169 (12.087)
MW4020 (11.397)
MW2163 (12.582)
MW2358 (13.161)
MW4009 (11.425)
MW2129 (11.859)
MW2394 (12.99)
MW2411 (-)
MW4218 (15.411)
MW2172 (11.277)
MW2201 (13.081)
MW2118 (12.518)
MW2171 (11.173)
MW4060 (10.312)
MW2175 (10.684)
MW2120 (12.402)
MW2135 (14.312)
MW4023 (10.198)
MW2197 (12.777)
MW2203 (13.874)
MW2116 (-)
MW2177 (10.878)
MW2194 (12.14)
MW2528 (13.737)
MW4059 (9.692)
MW2193 (13.012)
MW2180 (10.621)
MW2150 (11.58)
MW2499 (13.244)
MW2148 (13.324)
MW2114 (13.66)
MW2131 (13.78)
MW2130 (12.673)
MW2156 (14.399)
MW4027 (-)
MW2182 (11.008)
MW2188 (12.248)
MW2149 (13.462)
MW2490 (13.13)
MW2134 (13.93)
MW4028 (9.064)
MW2184 (11.485)
MW2112 (12.573)
MW2137 (12.194)
MW4015 (12.453)
MW2325 (13.239)
MW4029 (9.482)
MW4013 (13.093)
MW4006 (11.621)
MW4058 (7.06)
MW2501 (13.222)
MW4003 (12.472)
MW4030 (9.83)
MW4049 (8.847)
MW4037 (12.353)
MW4057 (8.63)
MW4219 (7.486)
MW4063 (-)
MW4047 (9.861)
MW4001 (10.685)
MW4041 (10.001)
MW4043 (9.413)
MW4064 (5.035)
MW4052 (8.661)
MW4072 (9.045)
MW4053 (5.893)
MW4055 (5.938)
Waterloo Corner
Edinburgh North
Elizabeth North
Elizabeth Park
Elizabeth East
Elizabeth South
Elizabeth Grove
Elizabeth Vale
Davoren Park
Edinburgh
Salisbury North
Paralowie
Bolivar
St Kilda
Hillbank
Womma Rd
Waterloo Corner Rd
Main North Rd
Fifth Ave
Dimentio Rd
Purling Ave
Judges Way
Woomera Ave
John Rice Ave
Northern Expy
Wakefield Hwy
Adelaide International Raceway
Speedway City
Penfield Golf Club
Dauntsey Reserve
Flaxman Park
Olive Grove Park
Hillbank Park
Elizabeth Vale Park
Elizabeth Park Reserve
Kavanagh Reserve
Argana Park
Edgecombe Rd
Davoren Park
Hewetson Rd
Tapleys Hill Rd
Ryan Rd
Nash Rd
Kudla Rd
Speedway
Flinders Rd
Simpson Rd
Brown Rd
Tozer Rd
Waterloo Corner Rd
Currow Rd
Talbot Rd
Symes Rd
Brooks Rd
Coleman Rd
St Kilda Rd
Robinson Rd
Mumford Rd
Butler Rd
Bolivar Rd
Duncan Rd
Kaurna Ave
Dimentio Rd
Purling Ave
Judges Way
Woomera Ave
Hogarth Rd
Samson Rd
Blackburn Rd
Little Para Rd
Midway Rd
Yorktown Rd
Hillcrest Rd
Hillbank Rd
Halsey Rd
Harvey Rd
Dauntsey Rd
Frisby Rd
Heaslip Rd
Hayward Rd
Bellchambers Rd
Womma Rd
Fifth Ave
Dimentio Rd
Purling Ave
Judges Way
Woomera Ave
John Rice Ave
Waterloo Corner Rd
Devon Dr
Whites Rd
Bolivar Rd
Duncan Rd
Kaurna



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N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.00 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation Q2 Monitoring Wells, January/February 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure

A5.2

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Filename: Project: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx (cummingsl), Layout: A52_EDN_2022_01_016, Last exported: 21/12/2021 11:33 AM

A3 size

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MW4071 (10.315)
MW2270 (13.221)
MW2275 (10.785)
MW2272 (11.353)
MW2281 (10.818)
MW4068 (9.315)
MW4073 (8.507)
MW4069 (10.235)
MW4074 (10.477)
MW4070 (6.114)

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GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

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LEGEND

- Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.00 Groundwater Elevation

Data sources:

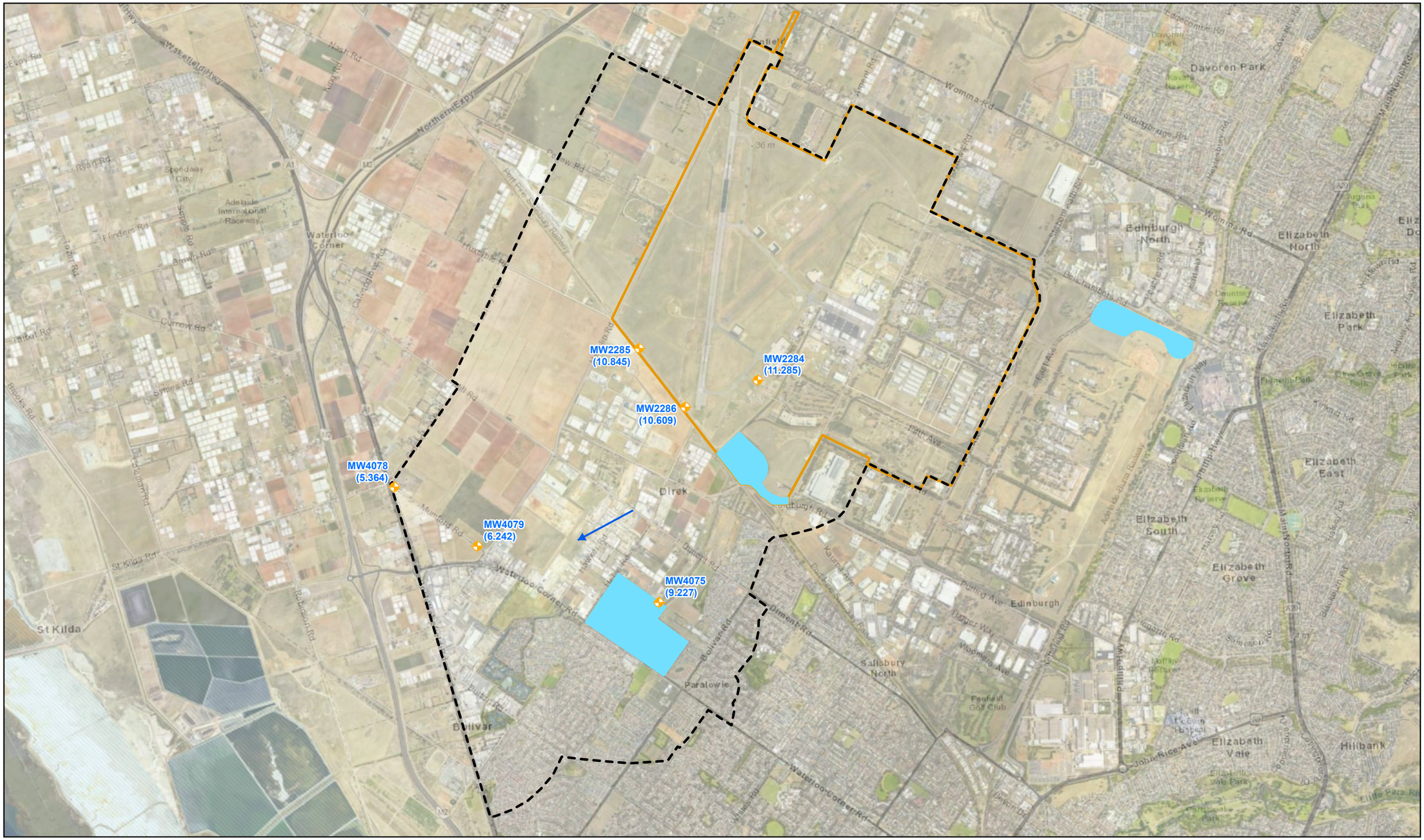
Base Data: Imagery (c) 2017 ESRI

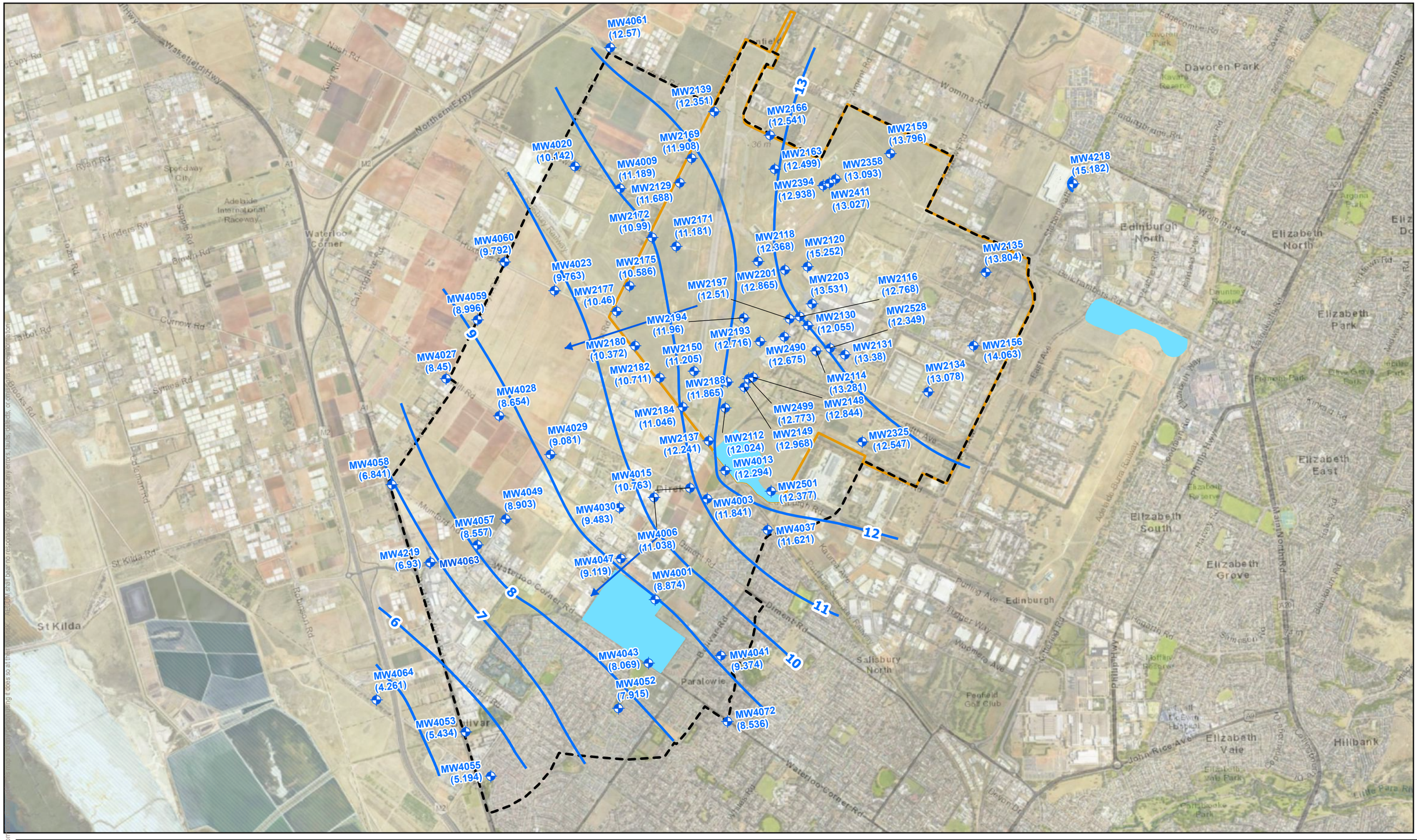
Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

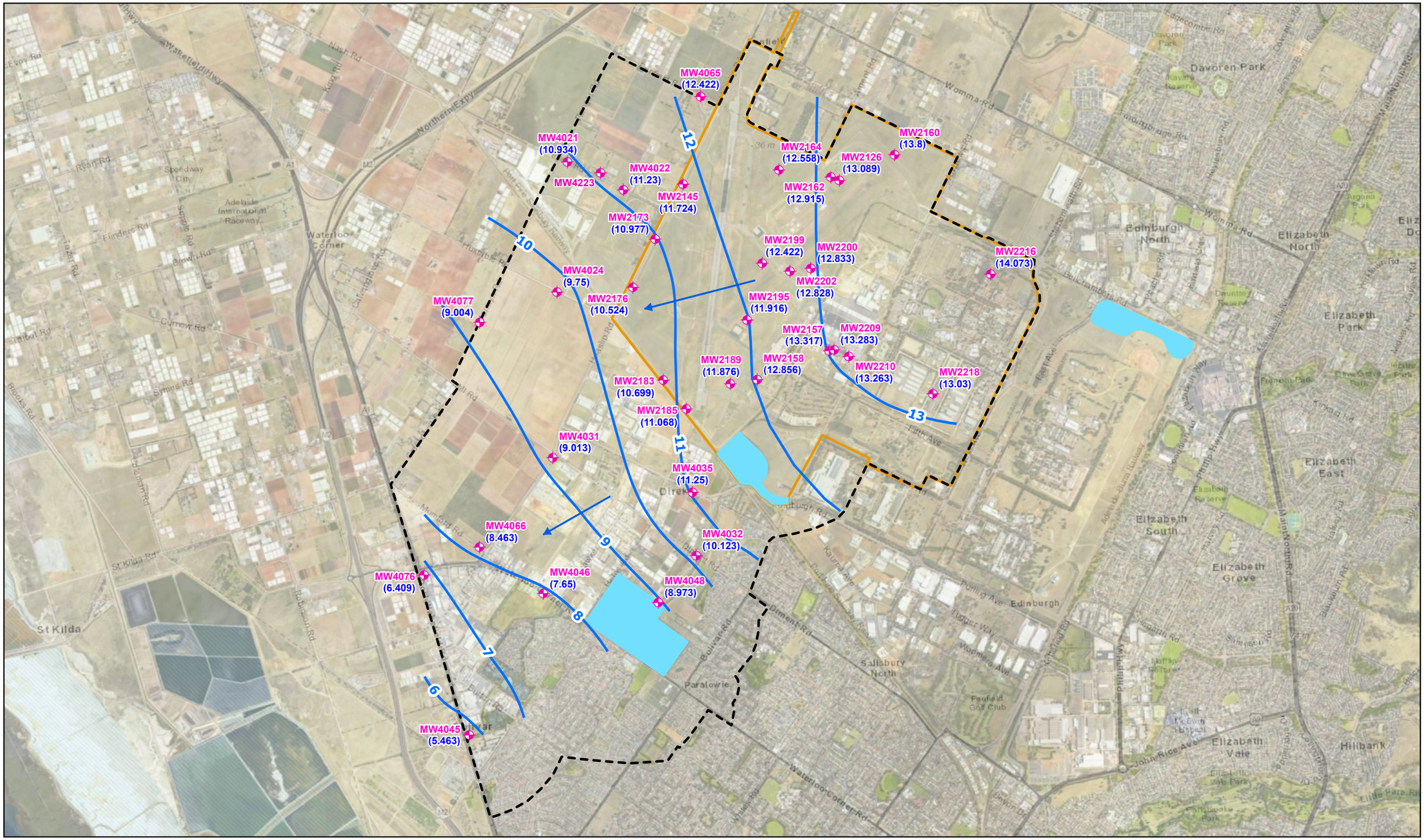
Inferred Groundwater Elevation Q3 Monitoring Wells, January/February 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A5.3


MW2285
(10.845)
MW2284
(11.285)
MW2286
(10.609)
MW4078
(5.364)
MW4079
(6.242)
MW4075
(9.227)
Waterloo Corner
Direk
Paralowie
Salisbury North
Edinburgh North
Elizabeth North
Elizabeth Park
Elizabeth East
Elizabeth South
Elizabeth Grove
Elizabeth Vale
Hillbank
Davoren Park
Edinburgh
Bolivar
St Kilda
Adelaide International Raceway
Speedway City
Pedfield Golf Club
Womma Rd
Waterloo Corner Rd
Bolivar Rd
Diment Rd
Duncan Rd
Mumford Rd
Nash Rd
Ryan Rd
Flinders Rd
Brown Rd
Currow Rd
Symes Rd
Brooks Rd
Taylor Rd
Robinson Rd
St Kilda Rd
Port Parallel Railway
Adelaide-Dublin Railway
Northern Expy
Wakefield Hwy
Penfield Rd
Huxtable Rd
Cavaliers Rd
Hayward Rd
Hare Rd
Burton Rd
Karrara Ave
Purling Ave
Tugger Way
Woomera Ave
Kittyhawk Rd
Fifth Ave
East Ave
Edinburgh Rd
Cheltenham Rd
Dauntsey Rd
Newestown Rd
Fairbridge Rd
Main North Rd
Philip Hwy
John Rice Ave
Hogarth Rd
Simpson Rd
Tinkara Rd
Midway Rd
Yorktown Rd
Hillier Rd
Haley Rd
Blanchard Rd
Elizabeth Reserve
Argana Park
Olive Grove Park
Fremont Park
Chesapeake Park
Devon Dr
Eddie Para Rd
Waterloo Corner Rd
Huxtable Rd
Penfield Rd
Fairbridge Rd
Womma Rd
Edgecombe Rd
Davoren Park
Kavanagh Reserve
Cheltenham Rd
Dauntsey Reserve
Newestown Rd
Fairbridge Rd
Main North Rd
Argana Park
Yorktown Rd
Midway Rd
Hillier Rd
Haley Rd
Blanchard Rd
Elizabeth Reserve
Olive Grove Park
Fremont Park
Tinkara Rd
Simpson Rd
Hogarth Rd
Philip Hwy
John Rice Ave
Chesapeake Park
Devon Dr
Eddie Para Rd
Waterloo Corner Rd
Adelaide-Dublin Railway
Edinburgh Rd


MW4061 (12.57)
MW2139 (12.351)
MW2166 (12.541)
MW2169 (11.908)
MW2163 (12.499)
MW2159 (13.796)
MW4020 (10.142)
MW4009 (11.189)
MW2129 (11.688)
MW2394 (12.938)
MW2358 (13.093)
MW2411 (13.027)
MW4218 (15.182)
MW2172 (10.99)
MW2171 (11.181)
MW4060 (9.792)
MW2118 (12.368)
MW2120 (15.252)
MW2135 (13.804)
MW4023 (9.763)
MW2175 (10.586)
MW2201 (12.865)
MW2203 (13.531)
MW2116 (12.768)
MW2177 (10.46)
MW2197 (12.51)
MW4059 (8.996)
MW2194 (11.96)
MW2130 (12.055)
MW2528 (12.349)
MW2193 (12.716)
MW2180 (10.372)
MW2150 (11.205)
MW2490 (12.675)
MW2131 (13.38)
MW2156 (14.063)
MW4027 (8.45)
MW2182 (10.711)
MW2134 (13.078)
MW2188 (11.865)
MW2114 (13.281)
MW4028 (8.654)
MW2148 (12.844)
MW2184 (11.046)
MW2499 (12.773)
MW4029 (9.081)
MW2149 (12.968)
MW2137 (12.241)
MW2112 (12.024)
MW2325 (12.547)
MW4058 (6.841)
MW4013 (12.294)
MW4015 (10.763)
MW2501 (12.377)
MW4049 (8.903)
MW4003 (11.841)
MW4030 (9.483)
MW4037 (11.621)
MW4057 (8.557)
MW4006 (11.038)
MW4219 (6.93)
MW4063
MW4047 (9.119)
MW4001 (8.874)
MW4043 (8.069)
MW4041 (9.374)
MW4064 (4.261)
MW4052 (7.915)
MW4072 (8.536)
MW4053 (5.434)
MW4055 (5.194)
13
12
11
10
9
8
7
6
Waterloo Corner
Edinburgh North
Elizabeth North
Davoren Park
Elizabeth Park
Elizabeth East
Elizabeth South
Elizabeth Grove
Elizabeth Vale
Hillbank
Salisbury North
Paralowie
Edinburgh
St Kilda
Adelaide International Raceway
Speedway City
Penfield Golf Club
Northern Expy
Waterloo Corner Rd
Womma Rd
Main North Rd
Elizabeth Way
Purling Ave
Hungerford Way
Woomera Ave
Diment Rd
Salisbury Highway
Port Wakefield Hwy
Wakefield Hwy
St Kilda Rd
Robinson Rd
Burton Rd
Whites Rd
Devon Dr
John Rice Ave
Lyell McEwin Hospital
Elizabeth Vale Park
Callabrooke Park
Hillbank Rd
Little Para Rd
Ryan Rd
Flinders Rd
Simple Rd
Brown Rd
Curnow Rd
Talbot Rd
Symes Rd
Brooks Rd
Edeman Rd
Nash Rd
Kind Rd
Cavanagh Rd
Evoy Rd
Mumford Rd
Argana Rd
Fairfield Rise Rd
Heytesbury Rd
Edgecombe Rd
Davoren Park
Ferdinbrune Rd
Beechambers Rd
Dauntsey Reserve
Heytesbury Reserve
Argana Park
Elizabeth Grove Park
Fremont Park
Elizabeth Reserve
Hoffman Reserve
Hillbank Reserve
Kaurna Ave
Kaurna Ave Cultural Sensitivity Priority Area
Adelaide Darwin Railway
Gawler Railway
Salisbury Highway
Main North Rd
Womma Rd
Dauntsey Rd
Heytesbury Rd
Fairfield Rise Rd
Hillbank Rd
Little Para Rd
Tinkard Rd
Midway Rd
Hayworth Rd
Hatsley Rd
Bartlett Rd
Blackburn Rd
Whitfield Rd
Woomera Ave
Purling Ave
Hungerford Way
Edinburgh
Elizabeth Way
John Rice Ave
Waterloo Corner Rd
Diment Rd
Burton Rd
Whites Rd
Devon Dr
Robinson Rd
St Kilda Rd
Port Wakefield Hwy
Wakefield Hwy
Northern Expy



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GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

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LEGEND

- Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q2 Monitoring Wells,
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

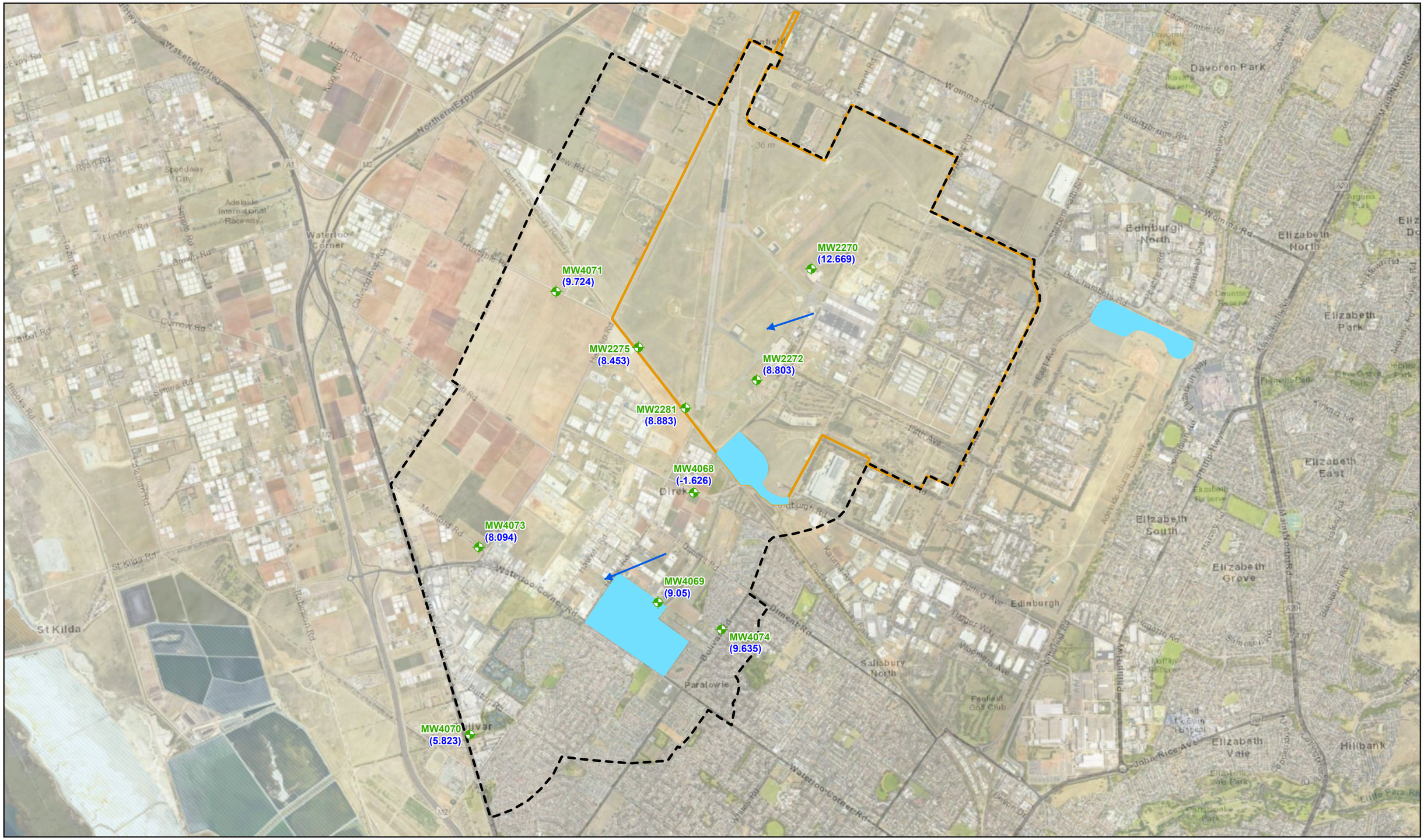
Figure

A5.6

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0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.00 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

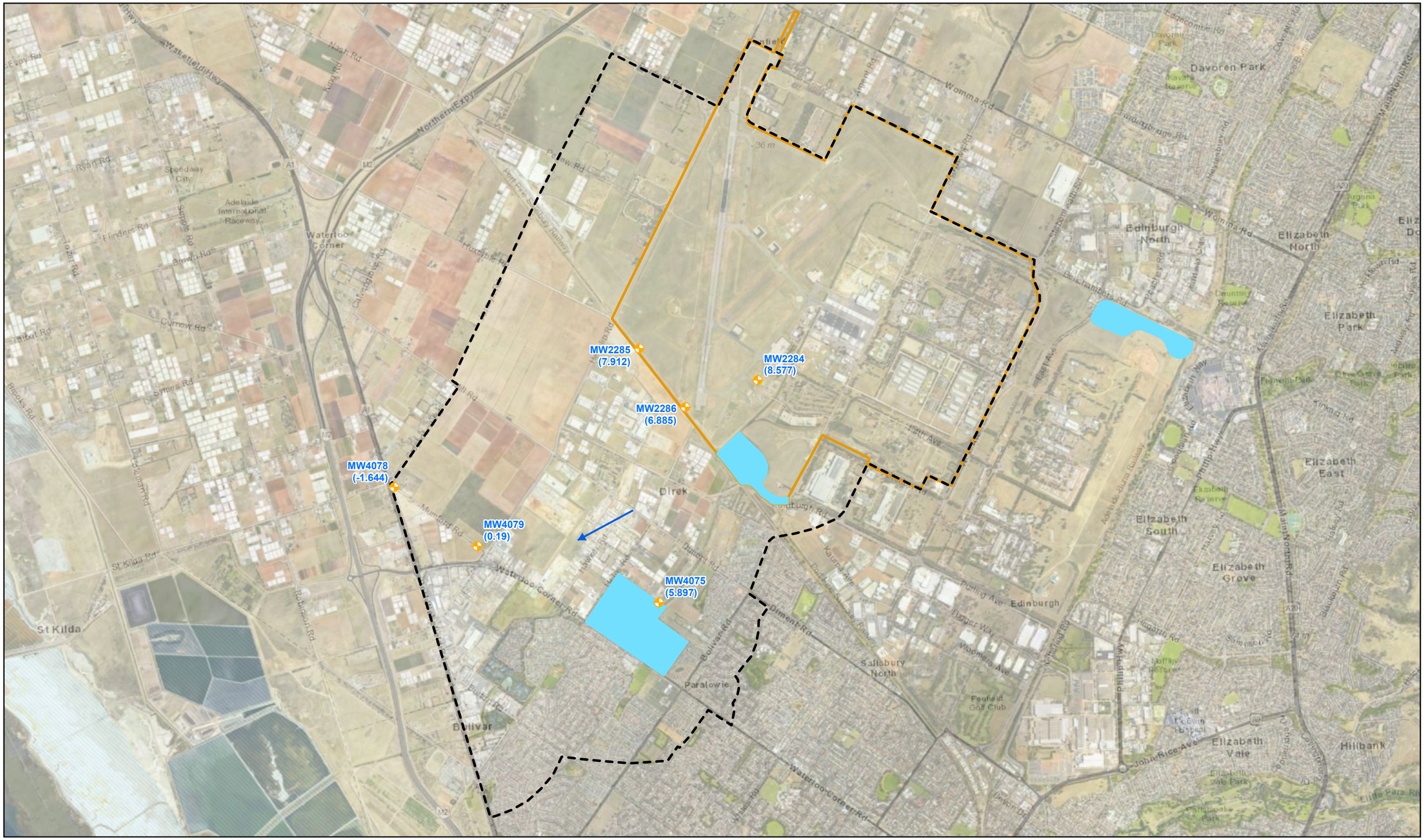
Inferred Groundwater Elevation
Q3 Monitoring Wells,
July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure
A5.7

A3 size

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0 0.5 1 2

Kilometre

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LEGEND

- Q4 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.00 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

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Inferred Groundwater Elevation Q4 Monitoring Wells, July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

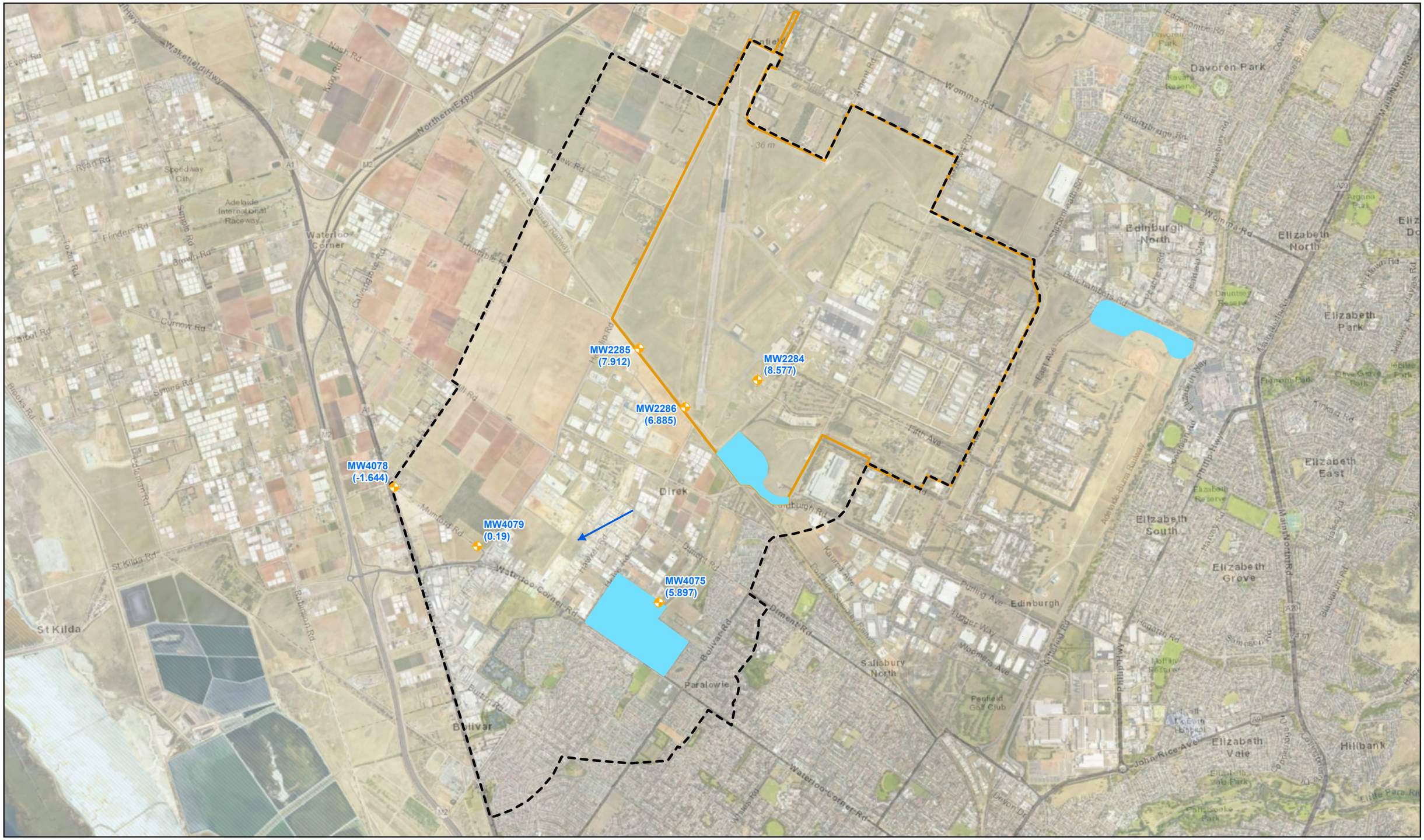
Figure

A5.8

A3 size

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LEGEND

- Q4 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.00 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

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Inferred Groundwater Elevation Q4 Monitoring Wells, July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

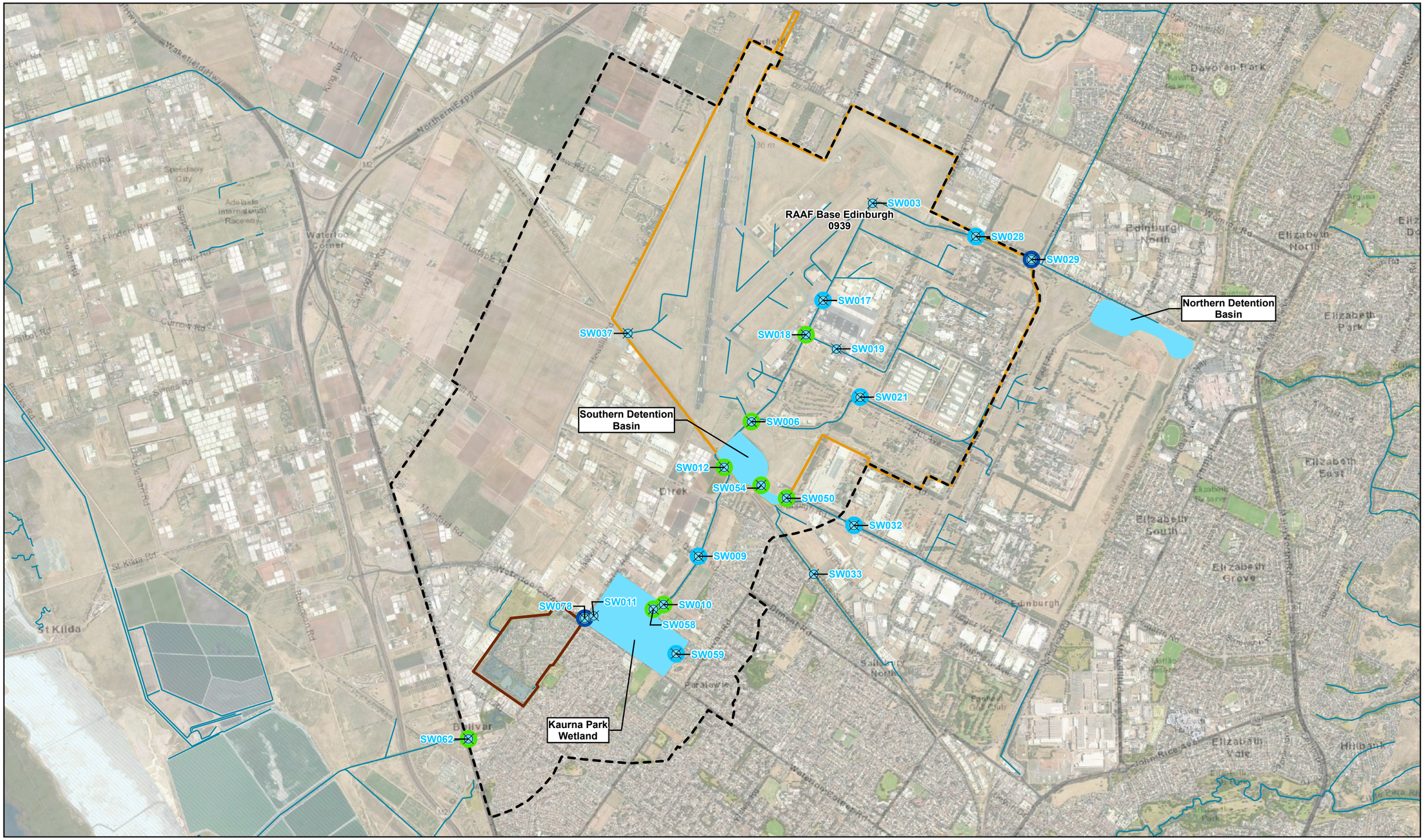
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A5.8

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LEGEND

- Surface Water Sample Locations
- Drainage Lines
- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFHxS+PFOS Concentration for Surface Water Locations January/February 2023

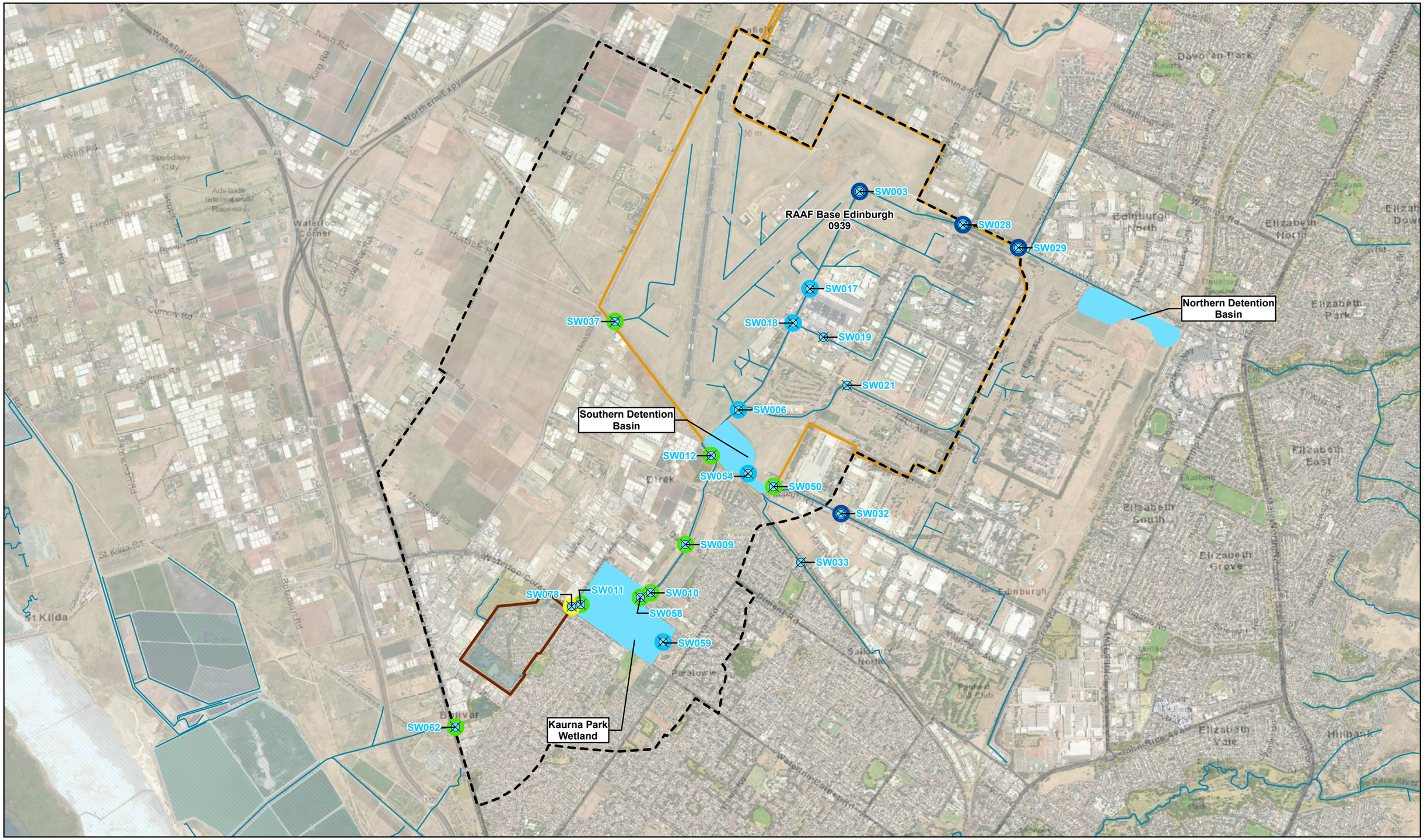
PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure

A6.1

Filename: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Defl\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx

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GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Surface Water Sample Locations
- Drainage Lines
- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Concentrations

- >70 µg/L
- 7 to <70 µg/L
- 0.7 to <7 µg/L
- 0.07 to <0.7 µg/L
- LOR to <0.07 µg/L
- Below LOR

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

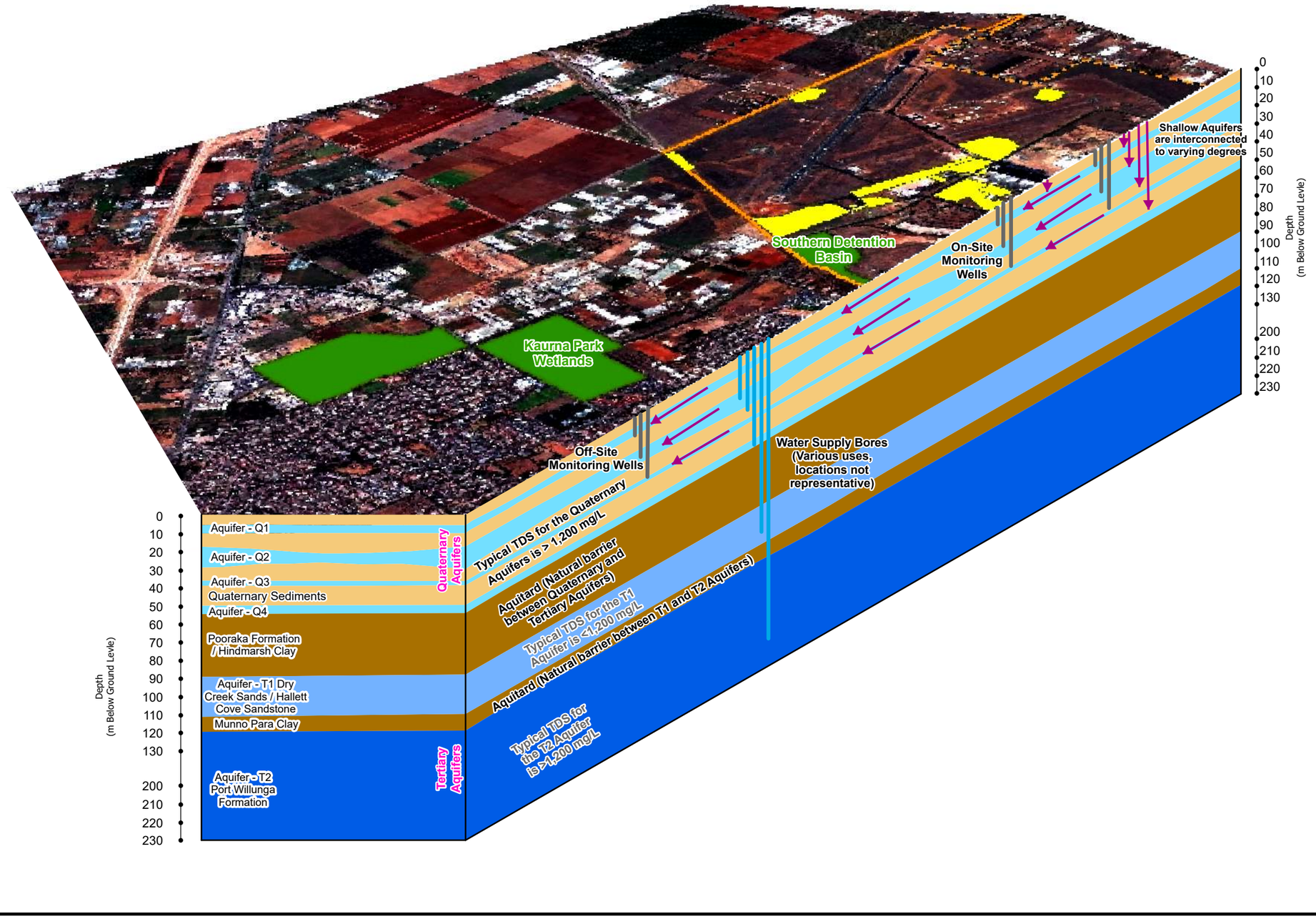
PFHxS+PFOS Concentration for Surface Water Locations July/October 2023

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure A6.2

Filename: \\na.aecomnet.com\lfs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Defi\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\2022_01_PFAS_OMP_AIR\2023_01_PFAS_OMP_AIR - Copy.aprx

A3 size



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LEGEND

- Refined Investigation Area
- Site Boundary
- PFAS Migration to Groundwater
- Monitoring Wells
- Water Supply Bores
- PFAS Source Areas

Aquifer

- Aquifer Q1 - Q4
- T1
- T2

Regional Geology

- Clays
- Clays, Silts, Sands

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Conceptual Site Model (Three Dimensional Cross Section) Site Setting and Hydrogeological

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

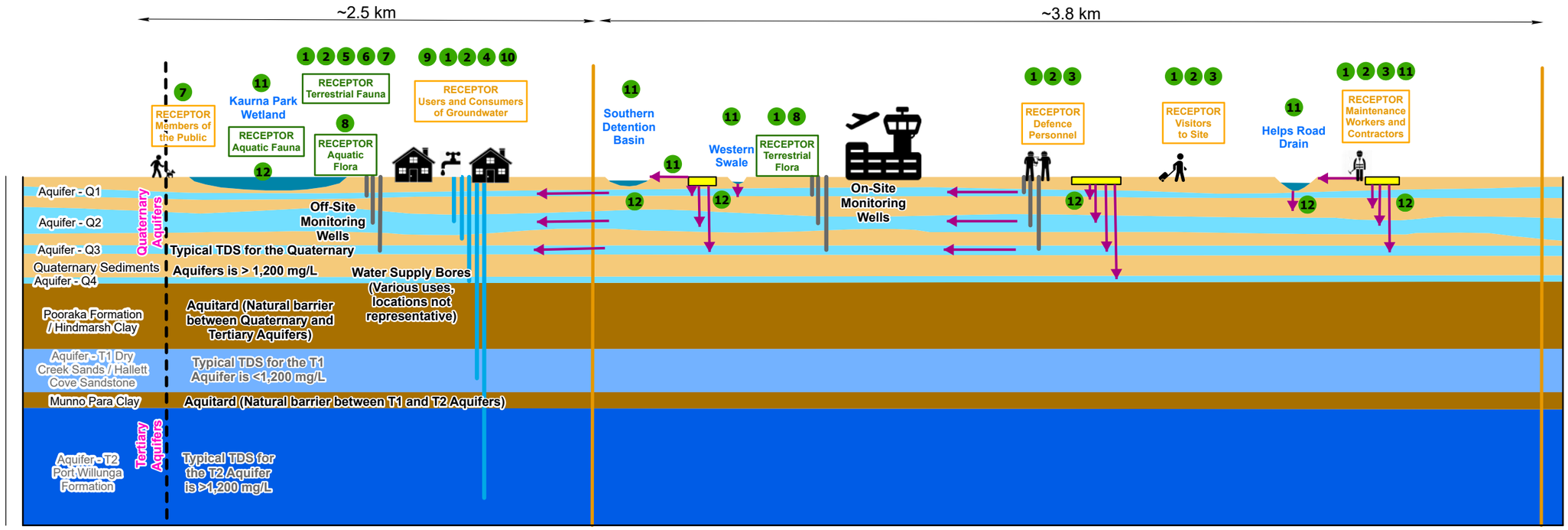
Figure

A7.1

A3 size

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LEGEND

Exposure Pathways

1. Direct Contact
2. Incidental Ingestion
3. Inhalation (dust)
4. Direct Consumption of Groundwater and Local Produce
5. Ingestion of Impacted Surface Water
6. Consumption of Impacted Flora
7. Consumption of Impacted Fauna
8. Uptake of PFAS From Affected Media
9. Consumption of Produce Irrigated With PFAS Contaminated Groundwater
10. Consumption of Livestock, Milk, Eggs Where PFAS Contaminated Groundwater Has Been Used for Stock Water Supply
11. Overland Transport of Particulate and Dissolved PFAS
12. Leaching of Dissolved PFAS

Refined Investigation Area
Site Boundary
PFAS Migration to Groundwater
Monitoring Wells
Water Supply Bores

PFAS Source Areas

Aquifer

Aquifer Q1 - Q4
T1
T2

Regional Geology

Clays
Clays, Silts, Sands

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

Conceptual Site Model (Two Dimensional Cross Section) Site Setting and Hydrogeological

PROJECT ID	60612561
CREATED BY	CUMMINGSL
LAST MODIFIED	CUMMINGSL 14 DEC 2023
VERSION:	1

Figure A7.2

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Appendix B

Sampling Analysis and Quality Plan

Prepared for
Department of Defence, Directorate of PFAS Remediation, Environment and Engineering Branch
ABN: 68 706 814 312

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Sampling Analysis and Quality Plan

24-Jan-2022
PFAS OMP - RAAF Edinburgh
Doc No. 60612561_OMP_RAAF Base Edinburgh_SAQP_20211220

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Sampling Analysis and Quality Plan

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

ABN: 68 706 814 312

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1.0 Introduction

1.1 Preamble

In July 2019, AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement routine monitoring programs for per- and poly-fluoroalkyl substances (PFAS) over a three-year period, with an additional two-year extension (five years in total), at selected Defence sites within the following four Defence regions:

- New South Wales and Jervis Bay Territories (excluding Riverina) Region (NSW & ACT)
- North Queensland Region (North QLD)
- South Queensland Region (South QLD)
- South Australia and Northern Territory Region (SA & NT).

This updated Sampling Analysis and Quality Plan (SAQP) has been prepared in relation to the Ongoing Monitoring Plan (OMP) works at RAAF Base Edinburgh (the Site) (**Figure 1, Appendix A**) in the **NT & SA Region**. RAAF Base Edinburgh is located approximately 30 km north of the central business district of Adelaide,SA.

1.2 SAQP Objectives

The objectives of this SAQP are to:

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

1.3 Scope of Works

To meet the OMP objectives, the following scope of works is proposed for the five-year monitoring period (2019 to 2024) as detailed in the Site OMP.

- **Table 1 Scope of Works**

Sample Matrix	Number of Locations	Laboratory Analysis	Frequency	Number of Monitoring Events	Approximate Monitoring Period
Groundwater (on-Base and off-Base)	105 monitoring locations	Standard PFAS Laboratory Suite	Biannual	6	Summer (January/February), and winter (July/August)
Groundwater (on-Base and off-Base)	18 monitoring locations	N/A - Gauging only	Biannual	6	Summer (January/February), and winter (July/August)
Surface water (on-Base and off-Base)	21 monitoring locations	Standard PFAS Laboratory Suite	Biannual	6	Summer (January/February), and winter (July/August)

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2.0 Site Identification and Conceptual Site Model

2.1 Site Details

From an operational perspective, the Base forms part of the broader Edinburgh Defence Precinct (EDP), including the Defence Science and Technology Group (DSTG) site located immediately east/southeast. Outside of other Defence operations, the general land use surrounding the Base comprises a mix of industrial, commercial, residential, and agricultural (primary production) land use.

The Management Area covers all of the Base and discrete areas outside of the Base including the Helps Road Drain and Kaurna Park Wetland, as well as groundwater beneath parts of the suburbs of Penfield, Direk, Burton, Salisbury North, Paralowie, Waterloo Corner, St Kilda and Bolivar where PFAS contamination has been identified in the Quaternary Aquifer system. The general layout of the Base and the Management Area is presented in **Figure 1, Appendix A**.

The Base encompasses an area of approximately 1,000 hectares (ha) and contains the following major features:

- an airfield
- airfield navigational aids
- explosive Ordnance (EO) areas
- fuel farm
- maintenance buildings
- hangars and aprons
- recreational, minor retail and training facilities
- working accommodation (e.g. temporary), Living-In Accommodation (LIA), and messing facilities
- northeast Defence Community Centre
- open space used as an airfield buffer.

2.2 Conceptual Site Model

The Conceptual Site Model (CSM) is presented in the Detailed Site Investigation (DSI) (JBS&G Australia Pty Ltd [JBS&G], 2018), the DSI Addendum Report (JBS&G, 2019b) and reference in the PMAP (PFAS Management Area Plan), which summarises the linkages between sources, exposure pathways and receptors.

The historic release of PFAS containing chemicals into the environment at RAAF Base Edinburgh has led to the contamination of soils, groundwater and surface water, resulting in concentrations of PFAS within groundwater off-base and in Helps Road Drain, which drains into Barker Inlet. Migration of PFAS off-base has the potential to pose an unacceptable risk to the health of human receptors or the environment. Consequently, it is important that ongoing monitoring of the nature and extent of PFAS within the environment at and surrounding RAAF Base Edinburgh is undertaken to assess potential changes in risk levels.

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3.0 Data Quality Assessment

3.1 Data Quality Objectives

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

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

The process of establishing appropriate DQOs is defined according to the following seven steps (Table 2):

Table 2 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

Concentrations of PFAS exceeding relevant human health and ecological screening criteria have been identified in multiple media including soil, surface water and groundwater at multiple locations on-Base with migration of surface water and groundwater impacts off-Base. Potentially unacceptable risks may be posed to unlicensed users of shallow Quaternary aquifer groundwater within the Management Area. Temporal concentration trends in groundwater and surface water are not well understood based on the monitoring data collected to date.

3.1.2 Step 2 – Identify the Goal of the Study

The overall goal of the study is to continue a systematic routine groundwater and surface water sampling and analysis program to provide current and ongoing information on the distribution and concentrations of PFAS in the Management Area.

Specific goals of the program are to:

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

3.1.3 Step 3 – Identify Information Inputs

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

- PFAS results from previous environmental investigations
- meteorological data including rainfall
- groundwater and surface water data collected and analysed for PFAS
- groundwater elevation data
- surface water conditions at time of sampling of surface water
- site status and land use scenarios and whether conditions and uses have changed.
- statistical analysis to identify trends
- advances in laboratory analytical approaches and changes in regulatory requirements

Key inputs to the decisions also include field observations and measurements, sample collection, preservation, storage, transportation and documentation for each media of concern, analytical methods, field and laboratory QA/QC, validation data obtained from the laboratory analysis.

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 limited to the Management Area shown in **Figure 1**, **Appendix A**.
- The sampling completed as part of the OMP will be limited to groundwater and surface water at the frequencies defined in Section **4.1**.
- Monitoring has occurred over an initial three-year period and will continue for an additional two year extension period (a total of five years of monitoring).

3.1.5 Step 5 – Develop the Analytical Approach

The data will be used to assess whether PFAS impacts as a result of historical use of AFFF at RAAF Base Edinburgh have changed in nature and extent which may alter the understanding or assessment of identified risks into the future to human or ecological receptors.

The decision rules can be defined as:

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

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- If PFAS concentrations are reported above the laboratory LOR, where it was previously <LOR, then it will be considered whether further assessment of the data will be required.

The decision on the acceptance of the analytical data should 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.

The decisions to be made from investigation results include the following:

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

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

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

- A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative.
- A decision error in the context of the decision rule presented above would lead to either underestimation or overestimation of the risk level associated with a particular sampling area.
- Sampling errors may occur when the sampling program does not adequately detect the variability of a contaminant from point to point across the site. To address this, alternate locations may be sampled, or additional sampling events may be conducted.

  There may be limitations in the data if aspects of the OMP cannot be implemented, such as:

  - Surface water or groundwater sample locations may be dry at the time of sampling.
  - Groundwater sampling locations are damaged or destroyed and therefore cannot be sampled.
  - Access to some sampling locations could be being restricted due to operational activities or inaccessible due to weather.
- Measurement errors can occur during sample collection, handling, preparation, analysis and data reduction. To address this the following measures are proposed:
  - Collection of sufficient sample mass to facilitate analysis reported to standard laboratory detections limits. Collection of insufficient sample mass may result in raised detection limits.
  - Field staff to follow a standard procedure when collecting samples, including decontamination of tools, and use of appropriate sample containers and preservation methods.
  - Laboratories to follow a standard procedure when preparing samples for analysis and undertaking analysis.
  - Laboratories to report quality assurance/quality control data for comparison with the DQIs established for the SAQP.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

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

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- Working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate.
- Conducting sampling according to Defence and Australian Standards for the type of sampling being conducted (i.e. groundwater monitoring well sampling versus landholder bore water sampling). These standards are as follows:
  - Department of Defence (July 2018, Amended August 2019), *Contamination Management Manual*
  - Standards Australia (AS/NZS5667.11–1998) Water Quality – Sampling, part 11: *Guidance on sampling of groundwater*.
  - Standards Australia (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*.
  - Standards Australia (AS 4482.2-1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances*.
- Conducting sampling in accordance with AECOM's internal PFAS Sample Collection Guidance.
- Sampling conducted by suitably qualified and experienced field staff.
- Basing the sampling upon a CSM developed using the information available at the implementation of the SAQP. Updating the CSM as new data becomes available in the course of the implementation of the SAQP, as required.
- Progressive review of the data throughout the OMP 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.

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4.0 Sampling Location Rationale and Methodology

4.1 Proposed Schedule

The key elements of the OMP are bi-annual monitoring of groundwater and surface water locations. Bi-annual events are to occur during summer and winter when groundwater and surface water conditions reflect potential seasonal influences.

Sample events should be conducted in the following periods:

- Summer season, January/February
- Winter season, July/August

4.2 Access Requirements for Sampling

A range of access requirements exist to collect the required groundwater and surface water samples, including:

- Initiating contact with RAAF Base Edinburgh no less than two weeks prior to sampling is necessary to ensure all access requirements are satisfied.
- To conduct works on the base, E&IG the contracted Base Manager, must be contacted to alert them of the intended works. E&IG will alert field team to any conflicting works on base. Photo permits must be obtained from E&IG upon arrival at the base, no photos are to be taken before this is done.
- Field team members must hold and display a Defence Common Access Card (DCAC), which allows unescorted entry to the base. Field team members or subcontractors without baseline clearance and DCAC's will need to be escorted by a field team member that has escort authority associated with their DCAC or have arranged an escort prior to sampling.
- If sample locations occur in construction areas, the field team will need to get permission from the project manager to access the site. Any internal inductions for the site will also need to be completed by the team upon the project manager's request.
- A Work Safety Officer (WSO) will need to be contracted and present for the duration of airside activities. Field team members entering airside locations will need to ensure they complete airside awareness training.
- Permission to access council, government and private bores must be obtained two weeks prior to sampling. Permission to sample council and government bores will be obtained directly to the stakeholder by AECOM. Permission to access and sample a private bore will be obtained by the Department of Defence on behalf of AECOM.
- A Safety, Health and Environment Management Plan (SHEMP) developed and approved prior to conducting works.

4.3 Groundwater Sampling Locations Rationale

There are 105 monitoring wells identified for ongoing monitoring (groundwater level gauging and sampling), including on-Base and off-Base locations (comprising of public and private land access). The OMP will monitor groundwater source area concentration changes and changes that may occur at Base boundary or off-Base locations, including wells located at the current lateral delineated extent of the PFAS plume.

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Table 3 Groundwater Monitoring Location Rationale

Location Description	Rationale
Background north and northeast of Base (on and off-Base locations)	• Monitoring wells located in background and/or upgradient of source locations. • Includes deeper groundwater monitoring wells due to the identified vertical migration between Quaternary Aquifers. • Monitoring will identify the presence of PFAS in groundwater concentrations either entering the Base and or localised changes to groundwater flow directions.
Source Area P4 (on Base locations)	• Monitoring wells located within source areas where PFAS concentrations have been identified above health-based guidelines within the Q1 and Q2 aquifer units.
Source Areas P9 and P15, P11, P16 and P21. (on Base locations)	• Monitoring wells located within source areas where PFAS concentrations have been reported above health-based guidelines in the Q1, Q2, Q3 and Q4 aquifer units. • Monitoring will identify seasonal fluctuations in PFAS concentrations and track migration of the PFAS plume over time.
Source Areas P1, P3A, P3B and P27 (on Base locations)	• Monitoring wells located within and down gradient of source areas where PFAS concentrations have been reported above health-based guidelines within the Q1 and Q2 aquifer units.
Southern, western and northern boundary (on and off-Base locations)	• Boundary locations down gradient of and inclusive of identified source areas where PFAS concentrations have been reported above health-based guidelines within the Q1, Q2, Q3 and Q4 aquifer units. • These targeted locations will monitor potential PFAS migration concentrations at the boundary upgradient of potential and identified sensitive groundwater receptors to the west. • Monitoring wells are considered critical for monitoring potential seasonal variations in PFAS concentrations and any potential impact on the existing risk profile for adjacent or down gradient receptors.
Helps Road Drain (off-Base locations)	• Helps Road Drain is the primary surface water channel that directs stormwater from the Base to the Kaurna Park Wetland and after that to the Barker Inlet. The Helps Road Drain has influenced the migration of PFAS from the property which has led to elevated concentrations within the shallow Quaternary Aquifers directly associated with this pathway. A number of the targeted groundwater wells have reported the highest concentrations of PFAS off-Base. • Monitoring wells will target groundwater impacts influenced by historical migration of PFAS impacted surface water migrating along both the former and current Helps Road Drain through the Southern Detention Basin, off-Base to the Kaurna Park Wetland extending down to the Barker Inlet. • Deeper aquifer units targeted as PFAS concentrations reported within the Q1, Q2, and Q3 aquifer units.
Lateral extent of PFAS impacts (off-Base locations)	• Groundwater well locations represent the lateral extent boundary of identified PFAS impacts within the Q1, Q2 aquifers and in selected Q3 aquifer locations. • Monitoring will provide data on migration concentrations within the PFAS plume over time and identify changes in groundwater flow direction.
Proximity to identified licensed groundwater users (off-Base locations)	• Monitoring wells targeting adjacent identified licensed extractive groundwater users in the Q2, Q3 and Q4 aquifer systems, and are required to monitor any potential changes in PFAS concentrations in the adjacent relevant aquifers.
Tertiary Aquifer Bores (off-Base locations)	• Sampling of available Salisbury Council and Department of Environment and Water (DEW) Tertiary Aquifer irrigation and observation bores to confirm absence of PFAS.
Private Property Bore (off-Base locations)	• Private Q2 Aquifer water supply bore.

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4.4 Groundwater Sampling Locations

The groundwater sample locations to be monitored are presented in **Table 6** below, on **Figure 2, Appendix A** and **Table 1** in **Appendix B**.

Table 4 Groundwater Monitoring Locations

Target Area	Aquifer	On-base wells	Off-base wells	Number of wells
Background North and Northeast of Base	Q1	MW2325, MW2134, MW2135, MW2159,	MW4218^	**On-Base** (6 locations) **Off-Base** (1 location)
	Q2	MW2216, MW2218		
Source Area P4	Q1	MW2358, MW2411, MW2394	-	**On-Base** (5 locations)
	Q2	MW2126, MW2162	-	
Source Areas P9 and P15, P11, P16 and P21	Q1	MW2499, MW2112, MW2116, MW2120, MW2148, MW2149, MW2150, MW2188, MW2194, MW2197, MW2201, MW2203		**On-Base** (19 locations)
	Q2	MW2158, MW2189, MW2200, MW2202**		
	Q3	MW2270, MW2272		
	Q4	MW2284		
Source Areas P1, P3A, P3B and P27	Q1	MW2528, MW2490 MW2114, MW2130, MW2131, MW2193		**On-Base** (9 locations)
	Q2	MW2157, MW2209, MW2210		
Southern, western and northern boundary	Q1	MW2501, MW2129, MW2137, MW2139, MW2166, MW2169, MW2172, MW2175, MW2177, MW2180, MW2182, MW2184	MW4013	**On-Base** (21 locations) **Off-Base** (1 location)
	Q2	MW2145, MW2173, MW2176, MW2183, MW2185		
	Q3	MW2275, MW2281		
	Q4	MW2285, MW2286		
Helps Road Drain	Q1		MW4001, MW4003, MW4015, MW4053	**Off-Base** (11 locations)
	Q2		MW4035, MW4045, MW4048	
	Q3		MW4068, MW4069*, MW4070	
	Q4		MW4075	
	Q1		MW4009, MW4020, MW4023, MW4027,	**Off-Base** (20 locations)

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Target Area	Aquifer	On-base wells	Off-base wells	Number of wells
Lateral extent of PFAS impacts			MW4037, MW4041, MW4052, MW4055, MW4059, MW4060, MW4061, MW4219^, MW4064, MW4072	
	Q2		MW4021, MW4022, MW4024, MW4076, MW4077	
	Q3		MW4071	
Proximity to identified licensed groundwater users	Q1		MW4057, MW4058	**Off-Base** (9 locations)
	Q2		MW4065, MW4066	
	Q3		MW4069*, MW4073, MW4074,	
	Q4		MW4078 MW4079	
Tertiary Aquifer Bores	T1		MW4220, MW4221, MW4222	**Off-Base** (3 locations)
Private Property Bore	Q2		MW4223	**Off-Base** (1 location)

*Targeted wells have multiple data applications
** MW2202 was historically erroneously listed as targeting the Q1 aquifer and this has been amended
^Monitoring wells MW4218 and MW4219 are replacement wells for MW4011 and MW4063, respectively, which have been destroyed.

4.5 Groundwater Gauging Locations

All locations listed in **Table 4** above and 18 additional groundwater wells, listed in **Table 5**below, will be gauged prior to sampling, with the exception of locations with permanent headworks, i.e. private bore MW4223 and council owned bores MW4221 and MW4222. The additional 18 gauge only locations have been identified for ongoing groundwater level gauging, which include on- and off-Base locations (comprising of public land access) to supplement the well network targeted for sampling. The gauging methodology is outlined further in **Section 4.8.1**. All locations for gauging are shown on **Figure 2, Appendix A** and in **Table 2, Appendix B**.

Table 5 Groundwater Monitoring Locations

Aquifer	On-base wells	Off-base wells	Number of wells
Q1	MW2118, MW2156, MW2163, MW2171	MW4006, MW4028, MW4029, MW4030, MW4043, MW4046, MW4047, MW4049	**On-Base** (4 locations) **Off-Base** (8 locations)
Q2	MW2160, MW2164, MW2199, MW2195	MW4031, MW4032	**On-Base** (4 locations) **Off-Base** (2 locations)

4.6 Surface Water Sampling Location Rationale

There are 21 surface water locations identified for ongoing monitoring, including on-Base and off-Base locations (comprising of public land access). The OMP surface water quality locations monitor previous critical data points to extend the temporal data set and understanding of seasonal fluctuations in PFAS concentrations in surface water both on and off-Base. Locations targeted include those adjacent to source areas, upstream of source areas, and locations that have reported the highest PFAS concentrations to date.

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The on-Base locations assess major stormwater drainage features including Helps Road Drain, Taranaki Drain, and the Southern Detention Basin. The off-Base locations are positioned downstream in the Helps Rd Drain, the inlet and outlet of the Kaurna Park Wetland and further downstream to Port Wakefield Road. In addition, a small number of locations upstream of the Base have been targeted to assess any potential for the introduction of upstream PFAS sources.

Table 6 Surface Water Sample Rationale

Location Description	Rationale
Upgradient locations	Designated upgradient on-Base and off-Base locations targeting potential off-Base source of PFAS entering the Base
On-Base surface water drain network	Targeted sampling locations on-Base along the surface water network including Helps Road Drain and the Taranaki Drain, includes locations within the Southern Detention Basin.
On-Base surface water exiting the Base	Targeted sampling location at the exit point of the Western Swale along the southern boundary.
Helps Road Drain south of the Base boundary	Includes proposed sampling locations along the Helps Road Drain, entrance and exit to Kaurna Park Wetland and south along Helps Road Drain adjacent to Pt Wakefield Rd.
Kaurna Park Wetland	Targeted locations within Kaurna Park targeting season variations in PFAS concentrations.

4.7 Surface Water Sampling Locations

The surface water monitoring locations have been selected to maintain consistency with the monitoring completed during the investigation phases and are provided below in **Table 9**, on **Figure 3** in **Appendix A** and **Table 3**, **Appendix B**.

The surface water network is generally ephemeral, surface water sampling during the summer sampling event will target opportunistic post “summer” rainfall events where possible. Locations where surface water is permanently present will be sampled to identify any discernible trends in concentrations between relatively “wet” (e.g. winter) and “dry” (e.g. summer) periods.

Table 7 Surface Water Sampling Locations

Location Description	On-Base of locations	Off-Base of locations	Number of locations
Upgradient locations	SW003, SW028	SW029, SW032 SW033	**On-Base** (2 locations) **Off-Base** (3 locations)
On-Base surface water drain network	SW006, SW017, SW018, SW019, SW021, SW050, SW054		**On-Base** (7 locations)
On-Base surface water exiting the Base	SW037		**On-Base** (1 location)
Helps Road Drain south of the Base boundary		SW009, SW010, SW011, SW012, SW062	**Off-Base** (5 locations)
Kaurna Park Wetland		SW058, SW059, SW078	**Off-Base** (3 locations)

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4.8 Sample Collection and Handling

4.8.1 Groundwater Sampling

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

Table 8 Groundwater Sampling Methodology and Schedule

Item	Details
Groundwater Gauging	The depth to groundwater will be measured in each monitoring well prior to collection of groundwater samples, with the exception of locations with permanent headworks. The water level probe shall be decontaminated between sampling locations using Liquinox® and PFAS-free water. Due to the hydrogeologic conditions of each aquifer and the potential fluctuation of groundwater over time, gauging of each location will occur within a specified time period. Time allowances for each aquifer have been selected such that changes in groundwater level over time are not likely to affect the overall interpretation of the groundwater flow direction and gradients for the purpose of reporting. – Groundwater locations representative of the Q1 and Q2 aquifers require gauging to be conducted within a five-day time period. – Groundwater locations representative of the Q3 and Q4 aquifers require gauging to be conducted within a 24-hour time period.
Sample Collection Methodology	**Groundwater Monitoring Wells** Groundwater samples will be collected from monitoring wells using no purge methodology with HydraSleeves™ which will be installed within the screened interval of the wells, with the weight sitting one metre above the bottom of the well and secured to the well casing using dedicated disposable string. HydraSleeves™ will be deployed for a minimum of 24 hours prior to sampling for the initial sampling round. Once sampling is completed, new HydraSleeves™ will be deployed in preparation for the next six-monthly sampling round. Following sample collection, field parameters will be collected using remaining water in the HydraSleeve™. **Residential Extraction Bores** Extraction bore water samples will be collected from existing sample ports or taps on the headworks of the extraction bore as a “first flush” sample without pre-purging. The flow of the water will be turned down to provide a steady flow and minimise aeration of the water sample. Following sample collection, field parameters will be recorded ex-situ.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate (duplicate), inter-laboratory duplicate (triplicate) samples, rinsate samples, trip blanks samples and field blank samples. Duplicate and triplicate samples are to be collected at a minimum frequency of 1 in 10 PFAS primary samples. Rinsate samples are to be collected at a rate of one sample per day of sampling when non-dedicated equipment is used, by pouring laboratory supplied PFAS free deionised water over the decontaminated sampling equipment. Field blank samples are also required at a rate of one sample per day of sampling, by pouring laboratory supplied PFAS free deionised water into laboratory supplied sample bottles in a clean environment (office or warehouse). Trip blank samples are to be collected at a

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Item	Details
	frequency of one per esky by pouring laboratory supplied PFAS free deionised water into laboratory supplied sample bottles in a clean environment (office or warehouse). Additional sample volume is required to be collected to enable the appropriate laboratory QAQC. For 1-10 primary samples an additional set of samples for a laboratory duplicate and set of samples for a matrix spike analysis must be taken at two separate sites. For 11-20 primary samples an additional set of samples must be taken at a separate site for another duplicate.
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality will be recorded for all samples ex-situ.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Minimum Sampling Volumes	Bottle: PFAS Bottle (Grey) 40mL (2X20 mL)

4.8.2 Surface Water Sampling

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

Table 9 Surface Water Sampling Methodology and Schedule

Item	Details
Sample Collection Methodology	Samples are to be collected, using a telescoping sampling pole with laboratory supplied bottle on the end, from approximately 0.5 m below the surface (if possible), with care to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container should be lowered into the water using a sampling pole, with the cap immediately applied once the container is full. Following sample collection, field parameters will be recorded in-situ.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples, rinsate samples and field blank samples. Duplicate and triplicate samples are to be collected at a minimum frequency of 1 in 10 PFAS primary samples. Rinsate samples are to be collected at a rate of one sample per day of sampling when non-dedicated equipment is used by pouring laboratory supplied PFAS free deionised water over the decontaminated sampling equipment. Field blank samples are also required at a rate of one sample per day of sampling, by pouring laboratory supplied PFAS free deionised water into laboratory supplied sample bottles in a clean environment (office or warehouse). Additional sample volume is required to be collected to enable the appropriate laboratory QAQC**.**
Field Parameters	Temperature, EC, DO, ORP, pH and observations of water quality will be recorded for all samples.
Location Characteristics Observations	A description of each surface water sampling location is to be recorded, including type of collection site (stream, ditch, drain), estimated width and height of water feature, and flow characteristics (still, slow moving, fast moving).
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Minimum Sampling Volumes	Bottle: PFAS Bottle (Grey) 40ml (2x20ml)

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4.8.3 Sample Handling and Transport to Laboratory

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

All samples will be kept, if possible, at approximately 4°C during transit to the laboratory. Samples will be transported directly to the laboratory for analytical testing under standard Chain of Custody (CoC) procedures. Primary and field QA/QC samples will be analysed by Australian Laboratory Services (ALS), a National Association of Testing Authorities (NATA) accredited laboratory. The inter-laboratory duplicate samples will be analysed by National Measurement Institute (NMI), also a NATA accredited laboratory.

Prior to sampling, assessment of the analytical holding times will be made, and the sampling planned accordingly to ensure that holding times are not breached or minimised.

4.9 Calibration

The water quality meter will be calibrated prior to field mobilisation for field activities with relevant solutions, including pH, EC and ORP on each day of sampling. The calibration will be 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)". Where satisfactory calibration cannot be achieved, the water quality data will not be used for interpretive purposes.

Calibration details will be recorded on a calibration record sheet and included in the Sampling Events Factual Reports.

4.10 Logistics

The laboratory sample containers will be shipped from the laboratory to the AECOM office in Adelaide prior to the commencement of fieldwork. All primary samples will be delivered to ALS Adelaide at the completion of fieldworks and transported by an ALS supplied courier to ALS Melbourne or Sydney for analysis.

All inter-laboratory duplicate samples will be couriered directly to the secondary laboratory by ALS laboratory under a separate CoC for analysis.

4.11 Analytical Suite and Laboratory Analysis Methods

4.11.1 Laboratory NATA Accreditation Details

Laboratory Sampling analysis is to be conducted using NATA certified laboratories which will implement a quality control plan in accordance with NEPM (2013).

4.11.2 Analytical schedule

All media sampled shall be analysed for the extended PFAS suite with standard LOR as outlined in **Table 10** below.

Table 10 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

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PFAS Group	Compound	CAS No.
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 11** below.

Table 11 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

LC/MS-MS = Liquid chromatography–mass spectrometry

*LOR for Australian Laboratory Services (ALS)

4.12 Sample Nomenclature

In order to meet Defence data management requirements presented in **Section 4.0** of **Annex L** of the **Defence Contamination Management Manual** (**DCMM**) (Department of Defence, 2018) , a consistent sample nomenclature has been adopted for the program. All samples collected from each location should have a unique identification. The minimum mandatory requirements for the sample identifications are outlined in **Table 12**, further examples relevant to this SAQP are outlined in **Table 13**.

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Table 12 Mandatory requirements for Defence sample nomenclature

Sample ID	Location ID
PPPP_XX000_ZZZ_YYMMDD	XX000
e.g. 1200_BH001_1.2_190207	e.g. BH001
Reference	
PPPP – property identification (4-digits) XX – type of sample recovery 000 – location specific identification ZZZ – indicates the depth that the sample has been collected (in meters below ground level [bgl] YYMMDD – date of sample collection	

Table 13 Sample Abbreviations

Abbreviation	Meaning	Matrix	Examples of Methods of Sampling	Example Sample Name/Comments
MW	Monitoring Well	Water	Groundwater	1200_MW104_180630 Aquifer details can also be added following the location ID if required, where; P – perched, S – shallow, I – intermediate, and; D – deep
SW	Surface water	Water	Surface water	1200_SW002_180630

4.12.1 Quality Assurance / Quality Control Sample Nomenclature

The naming convention for QA/QC samples are outlined in **Table 14**, below

Table 14 QA/QC sample naming convention

QA/QC Sample Type	Naming Convention (where XX is a sequential number independent of sample or matrix type)
Quality control duplicate samples	
Intra-laboratory duplicate (duplicate)	1200_QC1XX_YYMMDD
Inter-laboratory duplicate (triplicate)	1200_QC2XX_YYMMDD
Quality assurance samples	
Rinsate	1200_QC3XX_YYMMDD
Field Blank	1200_QC4XX_YYMMDD
Trip Blank	1200_QC5XX_YYMMDD

4.13 Defence ESdat Requirements

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

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

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

4.14 Adopted Screening Criteria

PFAS screening values have been adopted for groundwater and surface water from the Defence OMP and are derived from the following documents:

PFAS screening values have been adopted for groundwater and surface water from the Defence OMP and are derived from the following documents:

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

Adopted PFAS screening values are provided in **Table 15**.

Table 15 Adopted Groundwater and surface water screening values (µg/L)

Pathway	Compound	Criteria	Comment / Reference
Drinking water - Groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP, 2020 are from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH utilised the TDI for PFOS and PFOA from FSANZ, 2017 and the methodology described in Chapter 6.3.3 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines (ADWG), 2016 to determine drinking water values. For PFHxS, DoH 2017 noted that '*FSANZ concluded that there was not enough toxicological and epidemiological information to justify establishing a tolerable daily intake. However, as a precaution, and for the purposes of site investigations, the PFOS tolerable daily intake should apply to PFHxS. In practice, this means that the level of PFHxS exposure should be added to the level of PFOS exposure; and this combined level be compared to the tolerable daily intake for PFOS*'. *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events / year) to calculate an annual ingestion rate of 30 L per year. .
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (95% species protection values) – surface water	PFOS	0.13 µg/L	HEPA (2020) NEMP 95% species protection. *All surface water and groundwater results will be compared to these criteria.*
	PFOA	220 µg/L	

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4.15 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.

Single use sampling equipment and any waste generated during works (including generation of wastewater) will be managed and/or disposed of appropriately in accordance with State waste disposal requirements.

4.16 Quality Assurance/Quality Control Sampling

The recommendations within this document are based on the guidelines presented in:

- NEPM [the National Environment Protection (Assessment of Site Contamination) Measure 1999] as amended in 2013.
- AS4482.1 Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-Volatile and Semi-Volatile Substances.
- AS4482.2 Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances.
- AS/NZ 5667.1 Water Quality Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handing of samples.
- ANZECC&ARMCANZ (2000). Australian guidelines for water quality monitoring and reporting.
- ANZECC& ARMCANZ (2000). Australian and New Zealand guidelines for fresh and marine water quality.
- WA DER (2016). Interim Guideline on the Assessment and Management of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS).
- United States Environmental Protection Agency (US EPA) (2000) Guidance on Systematic Planning Using the Data Quality Objectives Process EPA QA/G-4.

4.16.1 Field Intra-laboratory Duplicate and Inter-laboratory Duplicate Samples

Intra-laboratory and inter-laboratory field duplicates will be collected at a frequency of one per ten samples for each environmental media that are collected (10%). Repeatability will be assessed by relative percentage difference (RPD) between primary and duplicate samples. If RPD has variability greater than 30% the sample will be reviewed. The minimum volume of duplicate and inter-duplicate samples are to follow the below requirements set by the primary and secondary laboratories.

4.16.2 Rinsate Samples

Rinsate samples will be prepared in the field using laboratory prepared bottles and PFAS free deionised water used for the cleaning of ‘reusable sampling equipment’ (if used). These will be collected at a frequency of one sample per day of sampling when non-dedicated equipment is used when non-dedicated equipment is used.

4.16.3 Field Blank Samples

The Field Blank sample will be prepared in a clean environment (office or warehouse) and remain with the sample containers during sampling and during return to the lab. Field blank samples will be collected at a frequency of one sample per day.

4.16.4 Trip Blank Samples

The Trip Blank samples will be prepared in a clean environment (office or warehouse) and remain with the sample containers during sampling and during return to the lab.

4.16.5 Additional PFAS samples

Additional sample volumes will be obtained to enable laboratory QA/QC (duplicates and matrix spike) for PFAS analysis. The frequency of additional samples is 2:10 and 3:20, where two additional sets (2x20mL) are required per 10 primary samples, or three sets per 20 primary samples.

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4.17 Fieldwork Documentation

4.17.1 Field Observations and Results

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

- Groundwater Samples – standing water level, comments on the observed characteristics of the sample (e.g. colour, turbidity, odour, sheen) and reported field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded at regular intervals;
- Surface Water Samples – comments on the observed characteristics of the sample (e.g. colour, turbidity, odour, sheen), flow velocity and field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded; and

HydraSleeve™ deployment depth will be recorded, and the deployment depth will be determined by referring to the screen interval for each well.

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 Environmental Data Collection and Analysis ('EDCA') tool will be utilized by field staff to capture consistent field data based on project specific requirements, minimise potential data transcription errors, allow on-the-spot identification of potentially erroneous data in comparison to historical data and facilitate efficient data transfer to multiple data systems including ESdat.

4.17.2 Sample Labels

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

- AECOM project number
- name of sampler
- sample ID
- date of sample collection

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

4.17.3 Chain of Custody Forms

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

The CoC form will include the following information:

- job number (Note: the name of the site is not identified for confidentiality purposes)
- date and time of sample collection
- sample ID
- type of containers
- name of sampler
- laboratory to be used
- analyses required
- any comments
- signatures of the sampler and laboratory receiver.

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

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

4.17.4 Sampling Documentation

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

- name of sampler
- sample location
- date /time of monitoring/ sampling
- sampling method
- observations of the sampled media
- calibration records.

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

4.18 Reporting

4.18.1 Sampling Event Factual Report

No later than four weeks following the completion of each sampling event, AECOM will prepare and submit a Sampling Event Factual Report to Defence. A sampling event is defined as all sampling activities occurring in association with a PMAP defined season (i.e. summer / winter), which can include groundwater and surface water occurring at different times throughout a specified season as is appropriate for each sampling type. Each Sampling Event Factual Report will include:

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

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- Laboratory analytical certificates and QAQC reports
- Equipment calibration certificates

4.18.2 Annual Monitoring and Management Report

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

- evidence of compliance with the requirements of the SAQP and meeting stated objectives of the OMP
- relevant figures depicting sampling locations and site-specific hydrogeological features
- laboratory results and analysis including comparison with relevant screening criteria as identified in each OMP
- assessment and commentary on appropriate QA/QC procedures
- a review of the Conceptual Site Model and provision of a revised Conceptual Site Model if required
- data interpretation, including trends in groundwater concentration, gradient and flow directions
- assessment of statistically based trends that may inform decision making when it comes to the revision of an OMP
- a statement as to whether the risk profile has changed overall, or for any specific location at the Site, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.

4.18.3 OMP Review

Review of ongoing management at the site for the release to the government and public stakeholders. The report should contain the following information:

- identification of improvements to the OMP procedures in light of observed variability or concentration changes
- review of data gaps and nomination of measures to address significant gaps
- review of Changes in Australian or international practice and guidance in PFAS investigation
- reporting of changed conditions that require mitigation or warrant review of risk assessments

4.19 Deviations from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the PMAP , a number of points of deviation are noted (refer to **Table 16** below).

Table 16 Deviations from OMP

No.	Description	Rationale
1	Adoption of Revised Recreational Screening Criteria for PFHxS+PFOS and PFOA	The National Health and Medical Research Council (NHMRC) published guidance on PFAS in Recreational Water in 2019. The adopted screening criteria for PFHxS+PFOS and PFOA in surface water have therefore been revised to 2 µg/L and 10 µg/L, respectively. This is reflected in **Section 4.13.**
2	Sampling of groundwater and surface water for the non-PFAS suite.	Defence notified the AECOM project management team via email on 27th January 2021 that “all future OMP sampling events across all sites, the inclusion of non-PFAS analysis will need to be justified in advance and agreed by Defence Tech Policy through review of the SAQP”.

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No.	Description	Rationale
3	Replacement of destroyed wells MW4011 and MW4063	Groundwater monitoring locations MW4011 and MW4063, representative of the Q1 aquifer, were not located by a licensed surveyor in 2020 and deemed destroyed. These monitoring locations were replaced by MW4218 and MW4219, respectively in 2020.
4	Well ID Changes: • MW20327 to MW4220 • MW21322 to MW4221 • MW22767 to MW4222 • MW15586 to MW4223	The naming changes were conducted to ensure that the well IDs are DCMM compliant.

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5.0 References

ANZECC. (2018). *Australian and New Zealand guidelines for fresh and marine water quality 2000 (amended 2018).*

Department of Defence. (2018, amended August 2019). *Defence Contamination Management Manual.*

Department of Defence. (2019a). *PFAS Management Area Plan - RAAF Base Edinburgh.*

Department of Defence. (2019b). *Defence Contamination Management Manual 2018 (as amended 2019).*

Department of Defence. (2019c). *Pollution Prevention Guideline: Routine Water Quality Monitoring Manual.*

Department of Health. (2019). *Health based guidance values for PFAS for use in site investigatoins in Australia 2017 (as amended 2019).*

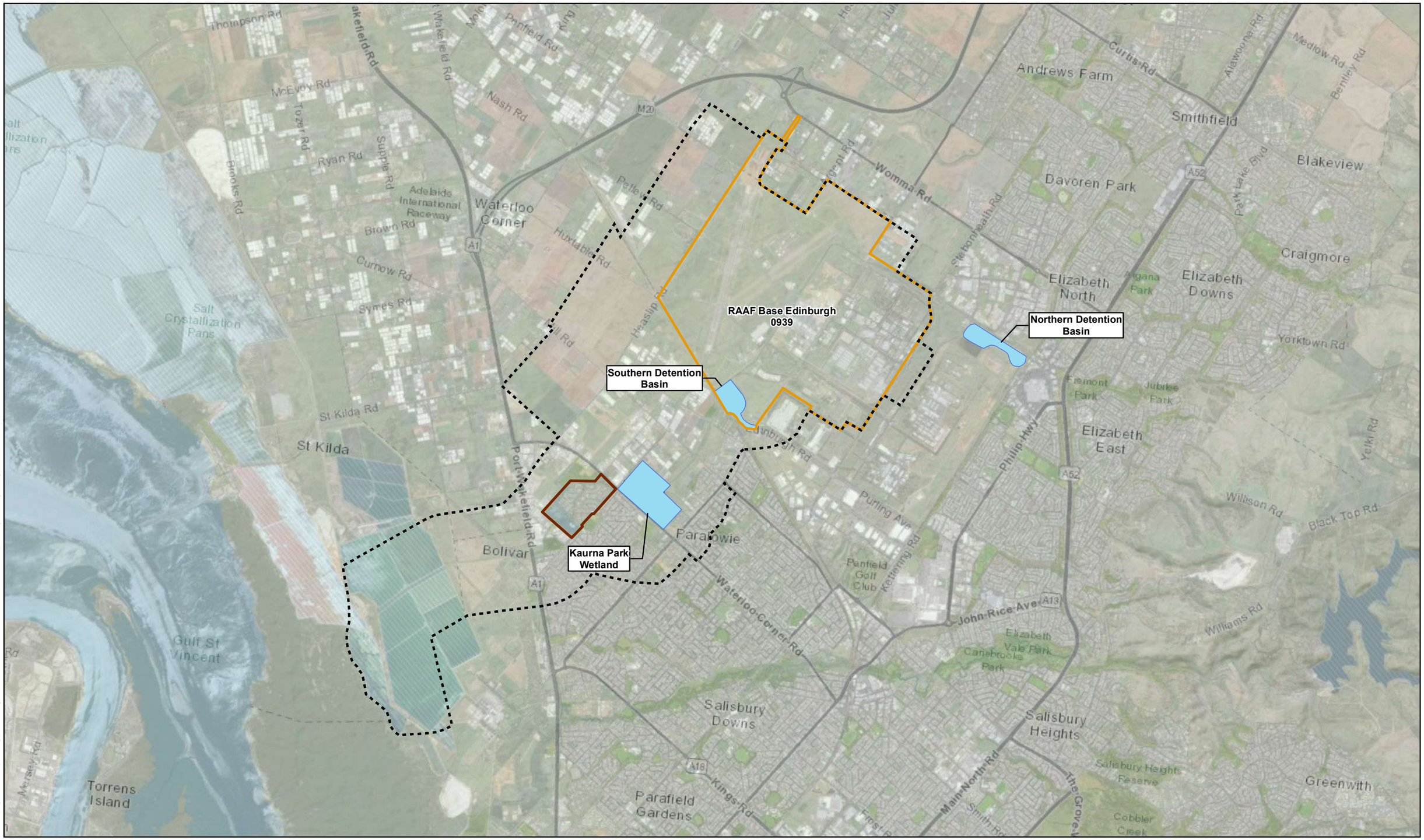
HEPA. (2020). *PFAS National Environmental Management Plan.*

NHMRC. (2019). *Guidance on Per and Polyfluoroalkyl (PFAS) in Recrational Water.* National Health and Medical Research Council.

Standards Australia/Standards New Zealand. (1998). *AS/NZ 5667.1 Water Quality Sampling - Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.*

Appendix A

Figures



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DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2

Kilometers

1:55,000 (when printed at A3)

Legend

- Detention Basin
- Springbank Waters Estate
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
SAMPLING ANALYSIS QUALITY PLAN

SITE LOCATION

PROJECT ID	60549059
CREATED BY	JD
LAST MODIFIED	BathurstJ19 Feb 2020
VERSION:	1

Figure 1

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A3 size

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DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.425 0.85 1.7

Kilometers

1:35,000 (when printed at A3)

Legend

- Gauging Locations Only

Sample Locations

- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
PFAS ONGOING MONITORING PROGRAM

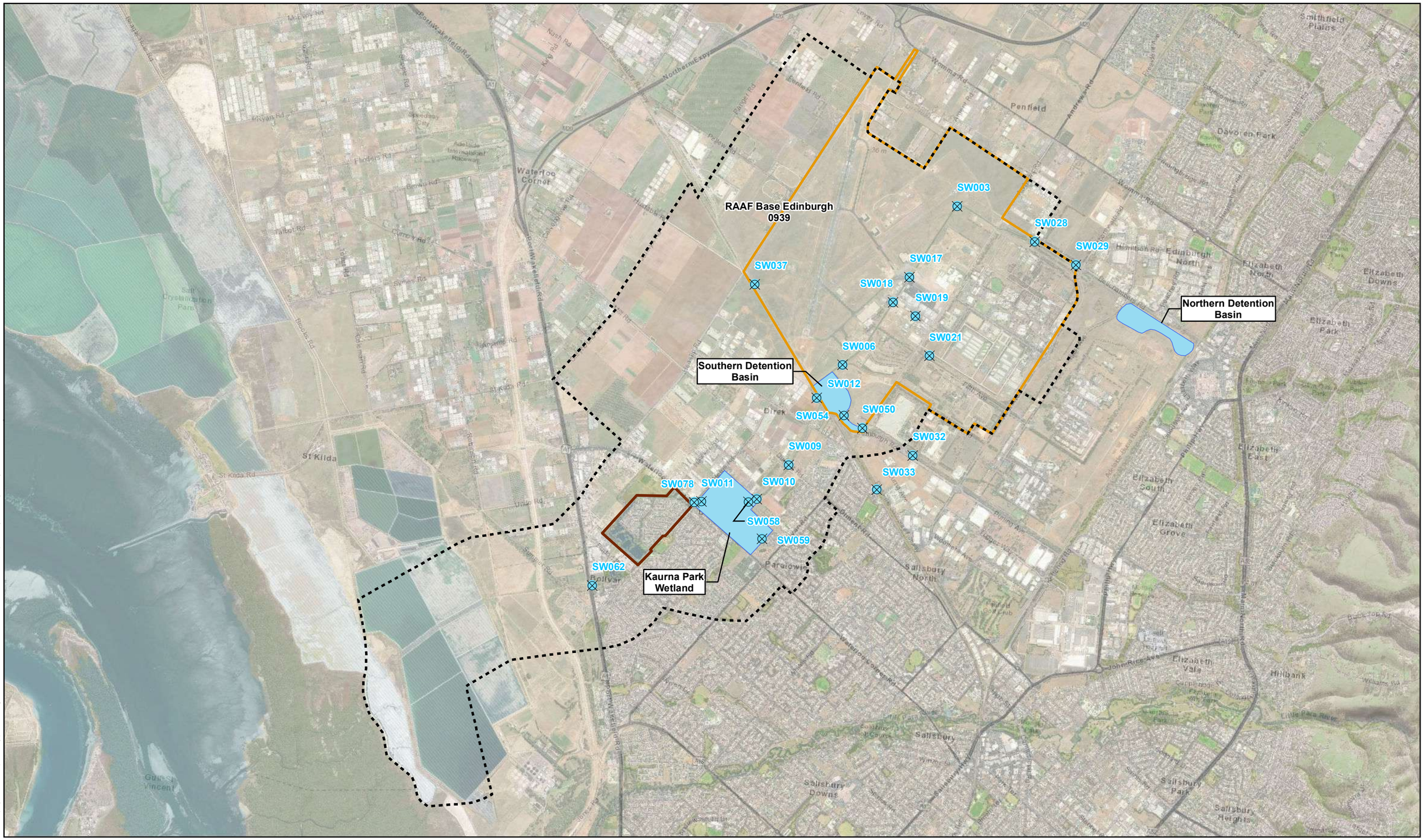
GROUNDWATER SAMPLE LOCATIONS

PROJECT ID	60612561
CREATED BY	KAI.DU
LAST MODIFIED	KAI.DU 09 JUN 2021
VERSION:	1

Figure 2

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A3 size



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DATUM GDA 1994, PROJECTION MGA ZONE 54

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Kilometers

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Legend

Surface Water Sample Locations

Type

- Detention Basin
- Springbank Waters Estate
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
SAMPLING ANALYSIS QUALITY PLAN

SURFACE WATER SAMPLE LOCATIONS

PROJECT ID	60549059
CREATED BY	JD
LAST MODIFIED	BathurstJ19 Feb 2020
VERSION:	1

Figure
3

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Appendix B

Monitoring Location Details

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Table B-1 RAAF Edinburgh groundwater sampling locations

Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW2528	EDGW04	On-Base	282771.879	6156117.22	-34.71394272	138.6279274	17.181	Q1
MW2358	GW0008	On-Base	282826.507	6157777.781	-34.69899246	138.6289507	20.062	Q1
MW2325	GW0015	On-Base	283088.844	6155196.652	-34.72230448	138.6311493	19.127	Q1
MW2394	GW0303	On-Base	282703.846	6157711.271	-34.69956566	138.6275954	18.788	Q1
MW2411	GW0321	On-Base	282765.25	6157734.774	-34.69936695	138.6282713	18.718	Q1
MW2490	GW0416	On-Base	282322.218	6156228.298	-34.71284622	138.6230497	17.58	Q1
MW2499	GW0428	On-Base	281970.784	6155813.554	-34.71650818	138.6191079	15.769	Q1
MW2501	GW0431	On-Base	282192.393	6154706.588	-34.72652927	138.6212403	15.673	Q1
MW4001	GW2101	Off-Base	281051.12	6153645.1	-34.73584926	138.6085099	12.909	Q1
MW4003	GW2103	Off-Base	281563.05	6154636.05	-34.72703044	138.614354	13.46	Q1
MW2112	GW2112	On-Base	281741.031	6155529.325	-34.71902005	138.6165274	15.877	Q1
MW2114	GW2114	On-Base	282634.947	6156088.193	-34.71417514	138.6264258	17.697	Q1
MW2116	GW2116	On-Base	282474.473	6156425.192	-34.71110461	138.6247617	16.978	Q1
MW2120	GW2120	On-Base	282550.211	6156915.876	-34.70669961	138.6257145	18.18	Q1
MW4009	GW2123	Off-Base	280706.519	6157684.146	-34.69938367	138.6057986	14.368	Q1
MW2126	GW2126	On-Base	282821.694	6157773.259	-34.69903218	138.628897	20.151	Q2
MW2129	GW2129	On-Base	281293.3	6157743.13	-34.69897789	138.6122153	15.881	Q1
MW2130	GW2130	On-Base	282552.47	6156339.583	-34.71189255	138.6255907	17.483	Q1
MW2131	GW2131	On-Base	282917.551	6156051.529	-34.71456556	138.6295	18.058	Q1
MW2134	GW2134	On-Base	283736.786	6155685.931	-34.71803335	138.6383455	19.716	Q1
MW2135	GW2135	On-Base	284303.65	6156860.304	-34.7075718	138.6448313	20.504	Q1
MW2137	GW2137	On-Base	281577.14	6155206.08	-34.72189747	138.6146553	15.791	Q1

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Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW2139	GW2139	On-Base	281632.57	6158438.41	-34.69278588	138.6160963	18.653	Q1
MW4013	GW2141	Off-Base	281740.99	6154912.4	-34.72457855	138.6163673	13.123	Q1
MW4015	GW2143	Off-Base	281393.67	6154742.55	-34.72603464	138.6125331	13.627	Q1
MW2145	GW2145	On-Base	281292.201	6157738.97	-34.69901514	138.6122023	15.838	Q2
MW2148	GW2148	On-Base	282016.563	6155826.88	-34.71639788	138.6196109	16.49	Q1
MW2149	GW2149	On-Base	281927.977	6155729.841	-34.71725331	138.6186192	16.626	Q1
MW2150	GW2150	On-Base	281434.777	6155891.215	-34.71569396	138.6132793	14.873	Q1
MW2157	GW2157	On-Base	282722.366	6156108.631	-34.71400958	138.627385	17.777	Q2
MW2158	GW2158	On-Base	282018.71	6155826.137	-34.71640503	138.6196341	16.498	Q2
MW2159	GW2159	On-Base	283365.069	6158028.597	-34.6968468	138.6348905	20.478	Q1
MW2162	GW2162	On-Base	282739.13	6157806.205	-34.69871779	138.6280048	19.721	Q2
MW2166	GW2166	On-Base	282180.908	6158209.564	-34.69496473	138.6220189	19.063	Q1
MW2169	GW2169	On-Base	281409.894	6157982.257	-34.69684828	138.6135492	16.608	Q1
MW2172	GW2172	On-Base	281021.721	6157205.643	-34.70376254	138.6091132	15.828	Q1
MW2173	GW2173	On-Base	281019.446	6157202.096	-34.70379401	138.6090875	15.882	Q2
MW2175	GW2175	On-Base	280799.695	6156727.962	-34.70801886	138.6065669	14.438	Q1
MW2176	GW2176	On-Base	280802.339	6156726.432	-34.70803321	138.6065953	14.282	Q2
MW2177	GW2177	On-Base	280673.63	6156478.397	-34.71024039	138.6051266	13.902	Q1
MW2180	GW2180	On-Base	280854.437	6156141.191	-34.71331739	138.6070118	14.195	Q1
MW2182	GW2182	On-Base	281097.704	6155825.423	-34.71621459	138.6095842	13.821	Q1
MW2183	GW2183	On-Base	281099.453	6155822.869	-34.71623798	138.6096027	14.831	Q2
MW2184	GW2184	On-Base	281322.651	6155539.506	-34.71883887	138.6119647	14.438	Q1
MW2185	GW2185	On-Base	281324.521	6155537.376	-34.71885846	138.6119845	15.286	Q2

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Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW2188	GW2188	On-Base	281762.006	6155782.891	-34.71673989	138.6168219	15.46	Q1
MW2189	GW2189	On-Base	281755.198	6155782.364	-34.71674319	138.6167474	15.201	Q2
MW2193	GW2193	On-Base	282083.972	6156180.783	-34.71322357	138.6204378	15.918	Q1
MW2194	GW2194	On-Base	281923.771	6156413.57	-34.71109197	138.61875	15.31	Q1
MW2197	GW2197	On-Base	282374.703	6156402.056	-34.71129183	138.6236671	17.642	Q1
MW2200	GW2200	On-Base	282543.677	6156912.168	-34.70673163	138.6256422	17.903	Q2
MW2201	GW2201	On-Base	282328.28	6156884.26	-34.70693724	138.623285	16.395	Q1
MW2202	GW2202	On-Base	282339.379	6156884.804	-34.7069347	138.6234062	16.473	Q2
MW2203	GW2203	On-Base	282594.053	6156550.269	-34.71000309	138.6260987	16.772	Q1
MW2209	GW2209	On-Base	282771.057	6156119.013	-34.71392639	138.6279189	17.075	Q2
MW2210	GW2210	On-Base	282915.644	6156052.52	-34.71455622	138.6294795	18.087	Q2
MW2216	GW2216	On-Base	284302.256	6156858.146	-34.70759095	138.6448156	20.468	Q2
MW2218	GW2218	On-Base	283737.881	6155688.014	-34.71801482	138.638358	19.774	Q2
MW4020	GW2222	Off-Base	280262.039	6157902.771	-34.69731845	138.6010065	13.97	Q1
MW4021	GW2223	Off-Base	280162.081	6157953.67	-34.69683837	138.5999293	13.697	Q2
MW4022	GW2224	Off-Base	280708.645	6157682.827	-34.69939601	138.6058215	14.423	Q2
MW4023	GW2225	Off-Base	280062.128	6156682.135	-34.70827333	138.5985078	11.855	Q1
MW4024	GW2226	Off-Base	280058.859	6156683.906	-34.70825667	138.5984726	11.895	Q2
MW4027	GW2229	Off-Base	278995.078	6155816.206	-34.71584508	138.5866391	9.532	Q1
MW4035	GW2237	Off-Base	281385.49	6154724.714	-34.72619359	138.6124392	13.735	Q2
MW4037	GW2239	Off-Base	282158.469	6154330.943	-34.72990662	138.620773	15.193	Q1
MW4041	GW2243	Off-Base	281698.489	6153093.969	-34.74095355	138.6154327	14.606	Q1
MW4045	GW2247	Off-Base	279199.241	6152349.625	-34.74712252	138.587959	7.328	Q2

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Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW4048	GW2250	Off-Base	281049.868	6153646.689	-34.73583468	138.6084967	12.975	Q2
MW4052	GW2254	Off-Base	280690.601	6152573.495	-34.74542698	138.6042963	12.057	Q1
MW4053	GW2255	Off-Base	279188.909	6152343.871	-34.74717213	138.5878447	7.45	Q1
MW4055	GW2257	Off-Base	279435.394	6151906.92	-34.75116227	138.5904208	7.883	Q1
MW4057	GW2259	Off-Base	279304.791	6154180.176	-34.7306524	138.5895904	9.429	Q1
MW4058	GW2260	Off-Base	278462.155	6154773.696	-34.7251225	138.5805504	9.407	Q1
MW4059	GW2261	Off-Base	279305.562	6156391.634	-34.71072765	138.5901773	10.204	Q1
MW4060	GW2262	Off-Base	279571.842	6156963.69	-34.70563095	138.593232	11.386	Q1
MW4061	GW2263	Off-Base	280610.08	6159070.033	-34.68687615	138.6051065	16.538	Q1
MW4064	GW2266	Off-Base	278310.213	6152656.76	-34.74416262	138.5783357	5.885	Q1
MW4065	GW2267	Off-Base	281463.537	6158592.151	-34.69136457	138.6142922	17.754	Q2
MW4066	GW2268	Off-Base	279299.733	6154184.38	-34.73061343	138.5895363	9.478	Q2
MW2270	GW2270	On-Base	282547.804	6156909.705	-34.7067547	138.6256866	18.1	Q3
MW2272	GW2272	On-Base	282013.185	6155820.708	-34.71645277	138.6195724	16.499	Q3
MW2275	GW2275	On-Base	280856.688	6156139.367	-34.71333431	138.6070359	14.121	Q3
MW4068	GW2276	Off-Base	281397.098	6154718.989	-34.72624766	138.6125644	13.749	Q3
MW4069	GW2277	Off-Base	281047.303	6153643.642	-34.73586158	138.6084679	12.92	Q3
MW4070	GW2278	Off-Base	279207.701	6152352.027	-34.74710271	138.588052	7.311	Q3
MW4071	GW2279	Off-Base	280049.801	6156687.674	-34.70822078	138.5983747	12.009	Q3
MW4072	GW2280	Off-Base	281762.567	6152443.874	-34.7468246	138.6159638	17.147	Q1
MW2281	GW2281	On-Base	281315.913	6155548.054	-34.71876041	138.6118934	15.229	Q3
MW4073	GW2282	Off-Base	279293.739	6154188.651	-34.73057366	138.589472	9.458	Q3
MW4074	GW2283	Off-Base	281669.974	6153381.792	-34.73835417	138.615196	14.06	Q3

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Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW2284	GW2284	On-Base	282023.019	6155820.604	-34.7164558	138.6196797	16.509	Q4
MW2285	GW2285	On-Base	280863.979	6156130.184	-34.71341861	138.6071131	14.287	Q4
MW2286	GW2286	On-Base	281314.915	6155556.531	-34.71868382	138.6118847	15.323	Q4
MW4075	GW2287	Off-Base	281056.027	6153645.937	-34.73584278	138.6085637	13.059	Q4
MW4076	GW2288	Off-Base	278758.499	6153913.616	-34.73293587	138.5835586	7.942	Q2
MW4077	GW2289	Off-Base	279303.525	6156386.059	-34.71077744	138.5901537	10.232	Q2
MW4078	GW2290	Off-Base	278466.575	6154772.265	-34.72513635	138.5805983	9.537	Q4
MW4079	GW2291	Off-Base	279280.86	6154197.582	-34.73049041	138.5893338	9.505	Q4
MW4218		Off-Base	278835.791	6154005.372	-34.69989048	138.6544269	9.09	Q1
MW4219		Off-Base	285162.761	6157732.886	-34.732125905	138.58442623	22.01	Q1
MW4221	MW21322	Off-Base	280486.76	6157850.52	-34.6978375	138.6034444	-	T1
MW4220	MW20327	Off-Base	280909.77	6154326.51	-34.7296795	138.6071443	-	T1
MW4222	MW22767	Off-Base	282490.91	6154688.32	-34.7267575	138.6244933	-	T1
MW4223	MW15586	Off-Base	281969.77	6153088.54	-34.7410605	138.6183923	-	Q2

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Table B-2 RAAF Edinburgh groundwater gauging locations

Location Code	Legacy Name	On/Off-Base	Easting	Northing	Latitude	Longitude	Elevation	Target Aquifer
MW4006	GW2106	Off-Base	281041.1	6154650	-34.7268	138.6087	13.283	Q1
MW2118	GW2118	On-Base	282064.2	6156966	-34.7061	138.6204	17.329	Q1
MW2156	GW2156	On-Base	284182.7	6156138	-34.7141	138.6433	19.773	Q1
MW2160	GW2160	On-Base	283362.1	6158022	-34.6969	138.6349	20.433	Q2
MW2163	GW2163	On-Base	282228.1	6157877	-34.698	138.6224	18.161	Q1
MW2164	GW2164	On-Base	282231.4	6157875	-34.698	138.6225	18.172	Q2
MW2171	GW2171	On-Base	281258.1	6157117	-34.7046	138.6117	16.471	Q1
MW2195	GW2195	On-Base	281919.3	6156409	-34.7111	138.6187	16.05	Q2
MW2199	GW2199	On-Base	282067.5	6156962	-34.7062	138.6205	17.177	Q2
MW4028	GW2230	Off-Base	279518.8	6155448	-34.7193	138.5923	10.396	Q1
MW4029	GW2231	Off-Base	280022.4	6155069	-34.7228	138.5977	11.916	Q1
MW4030	GW2232	Off-Base	280701.1	6154545	-34.7277	138.6049	11.755	Q1
MW4031	GW2233	Off-Base	280017.9	6155061	-34.7229	138.5976	11.831	Q2
MW4032	GW2234	Off-Base	281420.7	6154105	-34.7318	138.6127	12.948	Q2
MW4043	GW2245	Off-Base	280987.1	6153017	-34.7415	138.6076	12.125	Q1
MW4046	GW2248	Off-Base	279926.1	6153731	-34.7348	138.5963	9.19	Q1
MW4047	GW2249	Off-Base	280715.2	6154048	-34.7322	138.6049	11.657	Q1
MW4049	GW2251	Off-Base	279581.7	6154438	-34.7284	138.5927	10.643	Q1

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Table B-3 RAAF Edinburgh surface water sampling locations

Location Code	On/Off-Base	Easting	Northing	Latitude	Longitude
SW003	On-Base	283148	6157551	-34.7011	138.6324
SW006	On-Base	281961.4	6155415	-34.7201	138.6189
SW009	Off-Base	281443	6154098	-34.7319	138.6129
SW010	Off-Base	281102	6153625	-34.736	138.6091
SW011	Off-Base	280418.6	6153512	-34.7369	138.6016
SW012	Off-Base	281694.9	6154967	-34.7241	138.6159
SW017	On-Base	282662	6156600	-34.7096	138.6269
SW018	On-Base	282495.8	6156265	-34.7126	138.625
SW019	On-Base	282793.3	6156126	-34.7139	138.6282
SW021	On-Base	283025.1	6155654	-34.7182	138.6306
SW028	On-Base	284158.6	6157225	-34.7043	138.6433
SW029	Off-Base	284701.9	6157000	-34.7064	138.6492
SW032	Off-Base	282965.8	6154400	-34.7295	138.6296
SW033	Off-Base	282572.2	6153923	-34.7337	138.6252
SW037	On-Base	280753.6	6156279	-34.7121	138.6059
SW050	On-Base	282305.2	6154665	-34.7269	138.6225
SW054	On-Base	282056.9	6154791	-34.7257	138.6198
SW058	Off-Base	281001.8	6153579	-34.7364	138.608
SW059	Off-Base	281224.4	6153143.463	-34.7404	138.6102
SW062	Off-Base	279192.8	6152310.49	-34.7474	138.5878
SW078	Off-Base	280330.2	6153491.8	-34.7370	138.6006

Appendix C

2023 Factual Reports

Prepared for
Department of Defence Directorate of PFAS Remediation Environment and Engineering Branch
ABN: 68706814312

AECOM

Sampling Event Factual Report, January to March 2023

PFAS OMP - RAAF Base Edinburgh

25-Aug-2023
PFAS Ongoing Monitoring Plan

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Delivering a better world

Sampling Event Factual Report, January to March 2023

PFAS OMP - RAAF Base Edinburgh

Client: Department of Defence Directorate of PFAS Remediation Environment and Engineering Branch

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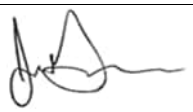
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Abbreviations

Term	Description
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
DCMM	Defence Contamination Management Manual
DEW	Department for Environment and Water
DO	Dissolved oxygen
DQI	Data Quality Indicators
DQO	Data Quality Objectives
EC	Electrical conductivity
EDCA	Environmental data collection and analysis
FSANZ	Food Standards Australia New Zealand
HEPA	Heads of the Environmental Protection Agencies
LOR	Limit of reporting
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
Q	Quaternary aquifer unit
RPD	relative percent difference
SA EPA	South Australian Environment Protection Authority
SAQP	Sampling and Analysis Quality Plan
T1	Tertiary aquifer unit 1
TOC	Top of Casing

List of Units

Units	Term
µg/L	Micrograms per Litre
µS/cm	Micro Siemen per centimetre
g	Gram
L	Litre
m	Metre
mAHD	Metres Australian Height Datum
m bgl	Metres below ground level
m bTOC	Metres below Top of Casing
µg/L	Milligrams per Litre
mV	Millivolts

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, 2019) at RAAF Base Edinburgh (the 'Base') in South Australia. The locations of the Base and Management Area are shown in **Figure 1.1**, **Appendix A** and PFAS source areas as outlined in the PMAP (Department of Defence, 2019) are shown in **Figure 1.2, Appendix A**. A groundwater prohibition area was gazetted by the South Australian Environment Protection Authority (SA EPA) on 3 February 2022 and is largely coincident with the Management Area, as shown on **Figure 1.3**, **Appendix A**.

The primary purpose of the PFAS OMP is to monitor changes to the PFAS impact in groundwater and surface water pathways associated with sources of PFAS as initially assessed through the detailed site investigation phase of works. Changes may result from the specific or cumulative impact of remediation or containment actions, existing transportation trends, and changes to hydrogeology or weather events. Sampling events are undertaken on a biannual basis to capture seasonal data for the dry and wet seasons.

The monitoring program at RAAF Base Edinburgh includes a regime of groundwater and surface water sampling to capture these changes in the long term, to enable Defence to maintain an up-to-date understanding of temporal and spatial distribution, concentration and transport of PFAS contaminants. The data collected will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PFAS Management Area Plan (Defence, 2019).

1.2 Objectives

As noted above, the objective of the PFAS OMP is to provide information on changes to PFAS impacts originating from Defence property to inform risk management decisions by Defence to protect human health and the environment.

The purpose of this PFAS OMP factual report is to summarise the scope of works and findings for the dry season groundwater and surface water sampling event conducted from January to March 2023, specifically highlighting first-time detections and/or new exceedances of adopted human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonic acid (PFHxS) and for 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).

An annual interpretive report will be subsequently developed for the purpose of assessing the data collected during the discrete monitoring events completed over the preceding 12-month period and will include assessment of environmental variability and any statistically significant trends in PFAS concentrations.

2.0 Scope of Work

The sampling event was completed in general accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2022).

Prior to commencement of the sampling event the SAQP was reviewed to ensure compliance with the following:

- Heads of the Environment Protection Authority (HEPA), PFAS National Environmental Management Plan 2.0 (NEMP 2.0) (HEPA, 2020)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (ASC NEPM, 2013)
- Defence Routine Environment Water Quality Monitoring Manual (Department of Defence, 2019)
- Defence Contamination Management Manual (DCMM) (Department of Defence, 2021)
- AS/NZ 5667:1998 Water quality – Sampling (AS/NZS, 1998)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
- Relevant State regulatory guidelines.

In summary, the scope of works completed for this sampling event included:

- Obtaining access to two City of Salisbury operational bores, one Department for Environment and Water (DEW) monitoring bore and one private bore.
- Collection of groundwater samples (including gauging of groundwater levels), in January / March 2023 from 105 planned existing monitoring wells, 102 using Hydrasleeves™, and three using permanently fitted headworks and taps (refer to **Table 1** below, and **Figure 2**, **Appendix A** for specific locations).
- It should be noted that MW2189 and MW2137 were not analysed with the original laboratory batch due to samples being lost in transit. MW2189 and MW2137 were re-sampled at a later date.
- Eighteen wells were gauged only to supplement the well network targeted for sampling to inform groundwater flow directions (refer **Table 2** below).
- Collection of 16 surface water samples from 21 planned locations in February 2023 (refer to **Table 3** below and **Figure 2** in **Appendix A** for specific locations) coinciding with a significant rainfall event (forecast for >10 mm of rain). Five locations were observed to be dry, surface water samples were therefore unable to be collected from these locations during this sampling event.
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and rinsates, field blanks and trip blanks.
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of the PFAS OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Location Description	Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
Background North and Northeast of Base	Quaternary aquifer unit (Q1)	MW2325, MW2134, MW2135, MW2159,	MW4218	On-Base (6 locations) Off-Base (1 location)
	Q2	MW2216, MW2218	-	
Source Area P4	Q1	MW2358, MW2411, MW2394	-	On-Base (5 locations)
	Q2	MW2126, MW2162	-	
Source Areas P9 and P15, P11, P16 and P21	Q1	MW2499, MW2112, MW2116, MW2120, MW2148, MW2149, MW2150, MW2188, MW2194, MW2197, MW2201, MW2203	-	On-Base (19 locations)
	Q2	MW2158, MW2189, MW2200, MW2202	-	
	Q3	MW2270, MW2272	-	
	Q4	MW2284	-	
Source Areas P1, P3A, P3B and P27	Q1	MW2528, MW2490 MW2114, MW2130, MW2131, MW2193	-	On-Base (9 locations)
	Q2	MW2157, MW2209, MW2210	-	
Southern, western and northern boundary	Q1	MW2501, MW2129, MW2137, MW2139, MW2166, MW2169, MW2172, MW2175, MW2177, MW2180, MW2182, MW2184	MW4013	On-Base (21 locations) Off-Base (1 location)
	Q2	MW2145, MW2173, MW2176, MW2183, MW2185	-	
	Q3	MW2275, MW2281	-	
	Q4	MW2285, MW2286	-	
Helps Road Drain	Q1	-	MW4001, MW4003, MW4015, MW4053	Off-Base (11 locations)
	Q2	-	MW4035, MW4045, MW4048	
	Q3	-	MW4068, MW4069^, MW4070	

Location Description	Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
	Q4	-	MW4075	
Lateral extent of PFAS impacts	Q1	-	MW4009, MW4020, MW4023, MW4027, MW4037, MW4041, MW4052, MW4055, MW4059, MW4060, MW4061, MW4064, MW4072, MW4219	Off-Base (20 locations)
	Q2		MW4021, MW4022, MW4024, MW4076, MW4077	
	Q3		MW4071	
Proximity to identified licensed groundwater users	Q1	-	MW4057, MW4058	Off-Base (9 locations)
	Q2		MW4065, MW4066	
	Q3		MW4069^, MW4073, MW4074,	
	Q4		MW4078, MW4079	
Tertiary Aquifer Bores	T1 (Tertiary aquifer unit 1)	-	MW4221, MW4220 and MW4222	Off-Base (3 locations)
Private Property Bore	Q2	-	MW4223	Off-Base (1 location)

^indicates well that applies to multiple locations.

Table 2 Groundwater Gauging Locations

Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
Q1	MW2118, MW2156, MW2163, MW2171	MW4006, MW4028, MW4029, MW4030, MW4043, MW4047, MW4049, MW4046	On-Base (4 locations) Off-Base (8 locations)
Q2	MW2160, MW2164, MW2199, MW2195	MW4031, MW4032	On-Base (4 locations) Off-Base (2 locations)

Table 3 Surface Water Sampling Locations

Location Description	On-Base locations	Off-Base locations	Number of locations
Upgradient locations	SW003, SW028	SW029, SW032 SW033	On-Base (2 locations) Off-Base (3 locations)
On-Base surface water drain network	SW006, SW017, SW018, SW019, SW021, SW050, SW054		On-Base (7 locations)
On-Base surface water exiting the Base	SW037		On-Base (1 location)
Helps Road Drain south of the Base boundary		SW009, SW010, SW011, SW012, SW062	Off-Base (5 locations)
Kaurna Park Wetland		SW058, SW059, SW078	Off-Base (3 locations)

2.1 Deviations from the SAQP

Deviations from the SAQP (AECOM, 2022) occurred during this sampling event, as outlined in **Table 4** below.

Table 4 Deviations from the SAQP during sampling event for Dry Season 2023

SAQP	January-March 2023 Sampling Event	Impact on OMP
Sampling of 21 surface water locations.	Of the 21 proposed surface water locations, five locations (SW003, SW011, SW019, SW033, SW037) were not sampled due to insufficient water available for sampling.	The absence of data from these surface water locations does limit the assessment of surface water pathways for PFAS migrating from the Base and creates a data gap in the assessment of PFAS in surface water.
Samples are to be collected, using a telescoping sampling pole with laboratory supplied bottle on the end, from approximately 0.5 m below the surface (if possible), with care to minimise collection of sediment or floating materials in the samples.	Samples were described as being collected from 0.1 metre beneath the water's surface. It should be noted that only surface water sampling locations SW010, SW017, SW018, SW028, SW029, and SW058 contained sufficient water during the sampling event to collect from 0.5 metres below the surface.	Collection from higher in the water column may have a minor impact on recorded PFAS concentrations if stratification is occurring within the water column, however, the results from all six locations where samples were collected above 0.5 metres have reported PFAS concentrations within the historical range.
Quality Assurance/ Quality Control (QA/QC) samples	A rinsate sample was not collected on 2 March 2023. As per SAQP, one rinsate blank per piece of equipment per day is required. A field blank was not collected on 2 March 2023. It is noted that field	Rinsate and field blanks samples were collected appropriately, with the exception of 2 March 2023. The quality of the analytical data has still been assessed as acceptable, with any potential cross

	blanks were not included in the SAQP utilised during the sampling event, however field blanks are required in the PFAS NEMP 2.0 (one field blank per day).	contamination considered unlikely based on the following: • only one well was sampled on 2 March 2023, with dedicated equipment utilised on this particular day of sampling. • Available rinsate and field blank samples, and numerous groundwater and surface water samples collected over the monitoring event, reported results below the LOR.
Hydrasleeve™, deployment depths	As per the SAQP, Hydrasleeves™, are to be deployed at depths within the screened interval of the wells, with the weight sitting one metre above the bottom of the well where practical. For the following wells the deployment depth was less that one metre: • MW2499 (0.86 m) • MW4068 (0.78 m)	Samples were collected within the screened interval therefore no material impact on the results are anticipated.
Groundwater Sampling	As per the SAQP, wells representing the Q3 and Q4 aquifers were not gauged within a 24-hour period due to delays in council access approvals for off-base wells.	Groundwater contours for the Q3 and Q4 aquifer wells may be inaccurate.

3.0 Methodology

The methodology adopted for the biannual groundwater and surface water sampling events was in accordance with the SAQP (AECOM, 2022) and is summarised below in **Table 5**.

Table 5 Sampling Methodology

Item	January-March 2023 Sampling Events
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe.
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater and surface water samples. **Groundwater** Groundwater field parameters for 102 of the 105 wells were obtained after sampling by retrieving groundwater via Hydrasleeve™ samplers for measurement with a water quality meter. Groundwater field parameters for the remaining three wells were obtained after sampling by filling a decontaminated container with groundwater from supplied taps for measurement with a water quality meter.

Item	January-March 2023 Sampling Events
	Surface water Surface water field parameters were obtained in-situ for measurement with a water quality meter. Field parameters and observations were collected electronically using AECOM's environmental data collection and analysis (EDCA) tool. Observations collected in the field are presented in table **T1** (groundwater) and **T3** (surface water) in **Appendix B**. Water quality meter calibration certificates are presented in **Appendix F**.
Sample collection	**Groundwater** Groundwater samples were collected from accessible monitoring wells using no-purge methodology via HydraSleeves™, with the exception of wells MW4221, MW4222 and MW4223, which are permanently fitted with headworks and were sampled via a tap. HydraSleeves™ are installed within the screened interval with the weight sitting one metre above the base of the well for a minimum of 24 hours prior to the sampling round, and generally placed six months prior to retrieval. Placement within the screen is based on a review of the well construction log; screened intervals for each location are shown in **Table T1, Appendix B**. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples obtained through a tap were collected by placing the laboratory sample bottle beneath the tap after the tap had run for 1-2 minutes to flush out the line/extraction pump. **Surface water** Surface water samples were collected from approximately 0.1 meters below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container was lowered into the water, using an aluminium sampling pole, with the cap immediately applied once the container was full. Field parameters were recorded in-situ, by lowering the water quality meter into the water body from approximately 0.1 metres below the water surface.
QA/QC samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples, field blank samples and trip blank samples. Refer to **Appendix C** for assessment of QA/QC sample data.
Sample analysis	• Samples were submitted to the primary and secondary laboratories for analysis for a suite of 28 PFAS analytes at the standard LOR. Australian Laboratory Services Environmental (ALS) Sydney, New South Wales (NSW) was used as the primary laboratory. National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses were certified by the National Association of Testing Authorities. Chain of custody documents are presented in **Appendix D** and laboratory certificates are presented in **Appendix E**.

3.1 Adopted Screening Criteria

Screening criteria were selected on the basis of national guidance in the form of the PFAS NEMP 2.0 (HEPA, 2020), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

- Department of Health, 2019. Health based guidance values for PFAS for use in site investigations in Australia. April 2017 (as amended 2019) (Department of Health, 2019).
- Heads of the Environment Protection Authority (HEPA), 2020. PFAS NEMP 2.0. (HEPA, 2020).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water (NHMRC, 2019).

The screening criteria which have been adopted are presented **Table 6** below.

Table 6 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water - groundwater	PFOS+ PFHxS	0.07 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020) are from Health based guidance values for PFAS for use in site investigations in Australia, 2017 (as amended 2019) (Department of Health, 2019). DoH 2019 utilised the total daily intake for PFOS and PFOA from Food Standards Australia New Zealand (FSANZ) Health Based Guidance Values for PFAS (2017) and the methodology described in Chapter 6.3.3 of the NHMRC Australian Drinking Water Guidelines (ADWG), 2016 to determine drinking water values. 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). *All groundwater results have been compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use	PFOS + PFHxS	2 µg/L	The values presented in the PFAS NEMP 2.0 (HEPA, 2020) are from NHMRC 2019, which published final health-based guidance values for PFAS for use in site investigations in Australia. *All surface water results have been compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020). *All surface water results have been compared to these criteria.*
	PFOA	220 µg/L	

3.2 Data Quality Objectives and Data Validation

The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2022).

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

Data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are generally acceptably reliable for the purpose of this report. Elevated relative percent differences (RPD) for selected duplicate samples warrant caution in interpretation where reported concentrations are close to criteria.

Of note, PFAS analytical result reported for monitoring wells MW2285 and MW2135 were inconsistent with secondary results (where available) and/or historical results. Upon confirmation of these results by the laboratory, the wells were resampled on 22 March 2023. The laboratory analytical results reported upon resampling indicated PFAS concentrations of a magnitude consistent with historical data. For both wells, the initial sampling results are considered to be of low reliability, and rather the results from the resampling event on 22 March 2023 have been adopted for interpretive purposes. An assessment of all other monitoring locations analytical results was completed upon detection of the above inconsistency and the quality of the analytical data was considered acceptable. All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with DCMM (Department of Defence, 2021) requirements.

4.0 Field Observations and Results

4.1 General Field Observations

The following field observations were applicable across the entirety of the sampling event.

Table 7 General Field Observations

Item	Observation
Weather conditions	Weather was observed to be varied between sampling dates with maximum temperatures ranging from 40.5°C to 20.2°C during the groundwater and surface water sampling events. Rainfall was observed on 3 February coinciding with surface water sampling, with 4.2 mm of rain recorded during and after sampling. The monthly total rainfall for February was 18.8 mm (Edinburgh RAAF station, 023083) (Bureau of Meteorology, 2023). The observed weather conditions had no material impact on the sampling event.
Estate Management Works or Training Activities	No notable estate works, or training activities were observed in the vicinity of sampling locations with the exception of the following: • Flight training activities undertaken airside. • Soil (Ventia) and groundwater (Enviropacific) remediation activity, i.e. soil washing and immobilisation and groundwater treatment Due to the nature and location of these works within the groundwater sampling network, the flight training works are not expected to affect data or samples collected within the sampling program or interpretations made for the Base at the time of sampling. MW2411 was observed to be buried approximately 0.4 metres below ground level (m bgl), due to being covered during the Ventia excavations of P4. However, the Gatic cover and well head were intact and undamaged. The potential for remediation works in source area P9 (groundwater extraction for remediation and on-going soil remediation) affecting the results of the OMP will continue to be assessed in the Annual Interpretive Report for 2023. This report will also assess potential effects of newly installed groundwater treatment systems installed in P11 and P16. Assessments to date of sampling locations in source area P9 indicate that PFAS concentrations in the Q2 aquifer are generally stable and increasing trends were observed in the Q1, Q3 and Q4 aquifers; however, these trends may be associated with the groundwater treatment system and/or well installation. As the results for this sampling event are generally consistent with previous rounds in areas where works are being undertaken, estate management activities or training activities that may have occurred prior to the sampling event do not appear to have had an impact on results for the January – March 2023 sampling event.

4.2 Groundwater

4.2.1 Field Observations and Field Measurements

Table 8 Groundwater observations and field measurements

Item	Observations and field measurements
Fieldwork dates	Groundwater sampling was completed between 30 January and 22 March.
Access and sample collection	All monitoring wells were accessible, with the exception of the following: • Bores MW4221, MW4222 and MW4223 were sampled from a tap; headworks or infrastructure present restricted access to gauge groundwater levels at these bores. A key obtained from DEW was required to access DEW bore MW4220. Council of Salisbury bores MW4221 and MW4222 required council escort for access.
Monitoring well network	The monitoring well network was generally in good condition and unchanged from the previous round. As noted in Section 4.1, MW2411 was observed to be buried approximately 0.4 m bgl, due to being covered during the Ventia excavations of P4. However, the gatic cover and well head was intact and undamaged and the area was cleared with a shovel.
Contamination Observations	No visible indications of contamination were observed during sampling. An organic odour was noted at wells MW2157, MW2162, MW2173, MW2189, MW2209, MW2394, MW2411 and MW4071. A sulfuric odour was noted at wells MW4073 and MW4075.
Depth to groundwater and flow direction	Standing water levels for each aquifer ranged between: • Q1: 4.261 (MW4064) and 15.182 (MW4218) metres Australian Height Datum (mAHD). • Q2: 5.463 (MW4045) and 14.073 (MW2216) mAHD. • Q3: -1.626 (MW4068) and 12.669 (MW2270) mAHD, noting that MW4068 is an outlier and that the majority of Q3 wells range between 5.823 (MW4070) and 12.669 (MW2270). • Q4: -1.644 (MW4078) and 8.577 (MW2284) mAHD. • T1: MW4220 was the only monitoring well available for gauging attributed to this aquifer, however, there is no top of casing (TOC) data available to calculate a corrected groundwater elevation. Groundwater gauging data is presented in **Table T1, Appendix B**. Inferred groundwater contours and groundwater flow directions at the Base are shown on **Figure 4.1**, **4.2**, **4.3** and **4.4** in **Appendix A**. Inferred groundwater contouring suggests that groundwater generally flows to the southwest across all quaternary aquifers, although with significant local variation in the Q1 aquifer associated with influence from surface water bodies. Insufficient data is available to generate groundwater contours for the T1 aquifer. These observations are generally consistent with previous collected groundwater data used for interpretation of groundwater flow direction.

Item	Observations and field measurements
Geochemical parameters	Groundwater geochemical parameters were measured after to collecting groundwater samples. The readings are presented in **Table T1** in **Appendix B**, and are summarised below: • Dissolved oxygen (mg/L): - Q1: 0.93 (MW4058) to 8.89 (MW2149) - Q2: 1.04 (MW4035) to 6.44 (MW2158) - Q3: 0.81 (MW4071) to 5.52 (MW2275) - Q4: 1.03 (MW2285) to 4.63 (MW2286) - T1: 2.11 (MW4220) to 3.50 (MW4221) • Electrical conductivity (µS/cm): - Q1: 450.2 (MW4027) to 24,227 (MW4023) - Q2: 930 (MW4048) to 25,849 (MW2176) - Q3: 2,119 (MW4074) to 13,120 (MW4071) - Q4: 2,399 (MW2286) to 16,378 (MW4078) - T1: 1,160 (MW4222) to 1,696 (MW4221) • pH: - Q1: 6.74 (MW2358) to 8.22 (MW4001) - Q2: 6.77 (MW2126, MW2176) to 11.72 (MW2210) - Q3: 6.73 (MW2270) to 11.49 (MW4068) - Q4: 7.23 (MW4078) to 12.18 (MW4079) - T1: 7.4 (MW4221) to 7.59 (MW4220) • Redox (mV): - Q1: -227.4 (MW2172) to 228.4 (MW4219) - Q2: -307.4 (MW2173) to 113.1 (MW2185) - Q3: -289 (MW4073) to 218.6 (MW2272) - Q4: -209 (MW2284) to 152.2 (MW4078) - T1: -126.2 (MW4221) to -15 (MW4222)

4.2.2 PFAS Groundwater Analytical Results

The PFAS groundwater analytical results from the January-March 2023 sampling event are presented in **Table T2** in **Appendix B**. Of the 105 groundwater wells sampled during this event, 78 samples reported concentrations of PFAS compounds above the laboratory LOR.

PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at five locations and 11,200 µg/L (MW2116) and for off-Base locations ranged between below the laboratory LOR (<0.01) at 22 locations and 12.3 µg/L (MW4003).

PFOA concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 21 locations and 371 µg/L (MW2116) and for off-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 29 locations and 0.22 µg/L (MW4075).

New maximum values for PFOS+PFHxS were reported at MW2114, MW2148, MW2173, MW2182, MW2185, MW2188, MW2270, MW2275, MW4057 and MW4075.

New maximum values for PFOA were reported at MW2114, MW2120. MW2148, MW2188 and MW4075.

Two new exceedances of the PFAS NEMP drinking water guideline were reported at two on-Base locations, MW2173 (0.07 µg/L PFOS) and MW2182 (0.21 µg/L PFOS).One first time detection above the LOR was reported for PFHxS at MW2216 (0.01 µg/L).

Deviations from the historical data set are recorded in **Table 9** below and shown graphically on **Figure 5.1**, **Appendix A**.

Table 9 Deviations from historical dataset

Deviation Type	Location	PFOS+PFHxS concentration (ug/L)		PFOS concentration (ug/L)		PFOA concentration (ug/L)	
		January/ March 2023	Previous maximum	January/ March 2023	Previous maximum	January/ March 2023	Previous maximum
New exceedance of PFAS NEMP drinking water guideline*	MW2173	0.11	0.08	0.07	0.04	<0.01	<0.01
	MW2182	0.29	0.20	0.21	0.06	<0.01	<0.01

	Yellow cells denote new exceedance of human health screening criteria.

New exceedances for PFOS recorded at locations MW2173 and MW2182 had previously exceeded the PFAS NEMP drinking water guidelines for PFOS+PFHxS. The exceedance is noted for the individual analyte and is not considered new exceedances for the program.

4.3 Surface Water

4.3.1 Field Observations and Field Measurements

Table 10 Surface Water Observations and Field Measurements

Item	Description
Fieldwork Dates	Surface water sampling was completed on 2 and 16 February 2023.
Access and sample collection	SW003, SW011, SW019, SW033 and SW037 had insufficient water for sampling, therefore no surface water was collected at these locations, as noted in **Section 2.1**. All other locations were suitable for sampling.
Contamination Observations	No obvious visible signs of contamination were observed. A septic odour was noted at location SW078.
Rainfall	The surface water sampling event on 2 February 2023was undertaken following a rainfall event of 4.2 mm of rain (Edinburgh RAAF station, 023083)
Surface Water Flow	During the February 2023 sampling event, it was noted that surface water generally flowed to the south and southwest within the drainage network. Sample locations where water was not evidently flowing were recorded at SW021, SW032, SW050, SW058 and SW059.
Geochemical Parameters	Surface water geochemical parameters were measured prior to collecting surface water samples in February 2023. The readings are presented in **Table T3** in **Appendix B**, and are summarised below: • Dissolved oxygen ranged from 1.17 mg/L (SW029) and 6.16 mg/L (SW010), indicating moderate to well oxygenated conditions. • Electrical conductivity ranged from 273 µS/cm (SW059) to 1686 µS/cm (SW062), indicating freshwater conditions. • pH ranged from 6.84 (SW029, SW062) to 8.04 (SW010). pH results indicate generally neutral to slightly basic conditions. • Redox (field measured) ranged from -246.5 mV (SW078) to 148.1 mV (SW029) indicating reducing to oxidising conditions.

4.3.2 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from the February 2023 sampling event are presented in **Table T4** in **Appendix B**. Of the 16 surface water sample locations sampled on 2 February, 13 primary samples reported concentrations of PFAS compounds above the laboratory LOR.

PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) (SW028) and 0.31 µg/L (SW050) and for off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at three locations and 0.47 µg/L (SW012).

PFOA concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at three locations and 0.02 µg/L (SW050, SW054). PFOA concentrations at off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at five locations and 0.02 µg/L (SW062, SW058, SW012 and SW010).

New maximum values were reported for PFOS+PFHxS at SW012 (0.47 µg/L), SW050 (0.31 µg/L), SW054 (0.29 µg/L), SW062 (0.28 µg/L) and PFOA at SW062 (0.02 µg/L).

Two first-time detections above the LOR were recorded for PFOA (0.02 µg/L at SW054) and PFOS+PFHxS.(0.03 µg/L at SW032).

New exceedance of the ecological screening criteria was reported for PFOS at SW012 (0.26 µg/L).

Table 11 Deviations from historical dataset

Deviation Type	Location	PFOS+PFHxS concentration (ug/L)		PFOS concentration (ug/L)		PFOA concentration (ug/L)	
		February 2023	Previous maximum	February 2023	Previous maximum	February 2023	Previous maximum
New exceedance of PFAS NEMP ecological screening criteria	SW012	0.47	0.17	0.26	0.12	0.02	0.02
First time detection above LOR	SW032	0.03	<0.01	0.03	<0.01	<0.01	<0.01
	SW054	0.29	0.29	0.16	0.22	0.02	<0.01

	Green cells denote first time detection above the laboratory LOR
	Purple cells denote new exceedance of ecological screening criteria

5.0 Summary and Next Sampling Events

5.1 Summary of Monitoring Event

The biannual groundwater monitoring event was completed at the Base, publicly accessible land and on a private property within the Management Area between 30 January and 22 March 2023. The program included:

- gauging and sampling of groundwater from 105 monitoring wells and bores.
- gauging of an additional 18 monitoring wells.
- Surface water sampling at 16 locations.

Table 12 summarises the findings of the January -March 2023 sampling event and recommended actions.

Table 12 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	Five surface water locations (SW003, SW011, SW019, SW033, SW037) were not sampled due to insufficient water for sampling.	Continue monitoring in accordance with the PFAS OMP.
Monitoring well network condition	The monitoring well network was generally in good condition and unchanged from the previous round.	No action required.
Analytical Results	PFAS concentrations were recorded above the LOR at 78 of 105 sampled groundwater monitoring locations and at 13 of 16 sampled surface water monitoring locations.	No action required.
First-time detection of PFOA or PFOS+PFHxS	**Groundwater**	Continue monitoring in accordance with the PFAS

Item	Comment	Recommended Actions
in groundwater or surface water	No first-time detections above the LOR were recorded for PFOA or PFOS+PFHxS. **Surface water** Two first-time detections above the LOR were recorded for PFOA (0.02 µg/L at SW054) and PFOS+PFHxS (0.03 µg/L at SW032).	OMP. Further assessment will be provided in the annual interpretive report for 2023.
New exceedance of screening criteria.	**Groundwater** Two new exceedances of the PFAS NEMP drinking water guideline were reported at on-base locations for PFOS MW2173 (0.07 µg/L) and MW2182 (0.21 µg/L). **Surface water** New exceedance of the ecological screening criteria was reported for PFOS at SW012 (0.26 µg/L).	Continue monitoring in accordance with the PFAS OMP. Further assessment will be provided in the annual interpretive report for 2023.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for July 2023.

5.3 Upcoming Annual Interpretive Report

The next annual interpretive report, encompassing all sampling events carried out in 2023 is scheduled to be delivered in the first half of 2024.

6.0 References

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Appendix A

Figures



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N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:55,000 (when printed at A3)

LEGEND

- Detention Basin
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023

SITE LOCATION

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED
VERSION: 1

Figure 1.1

A3 size

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ID	CSR Site
P1	Building 521 and AFFF Evaporation Pond
P2	Bulk Fuel Store, including 2,800L AFFF deluge system
P3A/ P3B	Hangars T0564, T0592, T0593, T0594, and T0595, including Chesterfield Sumps
P4	Former Fire Training area and Sub-surface Waste Dump (Site 19)
P8	Sub-surface Waste Dump (Site 16)
P9	Static Rocket Firing Sites and Former Fire Training Area (Sites 155 & 156; Building 618), including Smokeroom Training Area
P10	Former STP and Fire Training Area (including old 1RTU Training Area)
P11	Current Fire Station, including former AFFF Storage Area and foam test areas
P15a	Former Fire Training Area in Ordnance Unloading Area
P15b	Former Fire Training Area in Ordnance Unloading Area
P16	Former Fire Training Area adjacent to Engine Run Up Facility
P21	Former Fire Training Area along Taxiway Bravo
P23	Site of Train and Semi-trailer Crash
P27	Suspected former fire training area adjacent to parking area for aircraft refuelling tanker trucks

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N

GDA 1994 MGA Zone 54

0 100 200 400 600

Metre

1:18,000 (when printed at A3)

LEGEND

PFAS Source Area
Detention Basin
RAAF Base Edinburgh Boundary
Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023

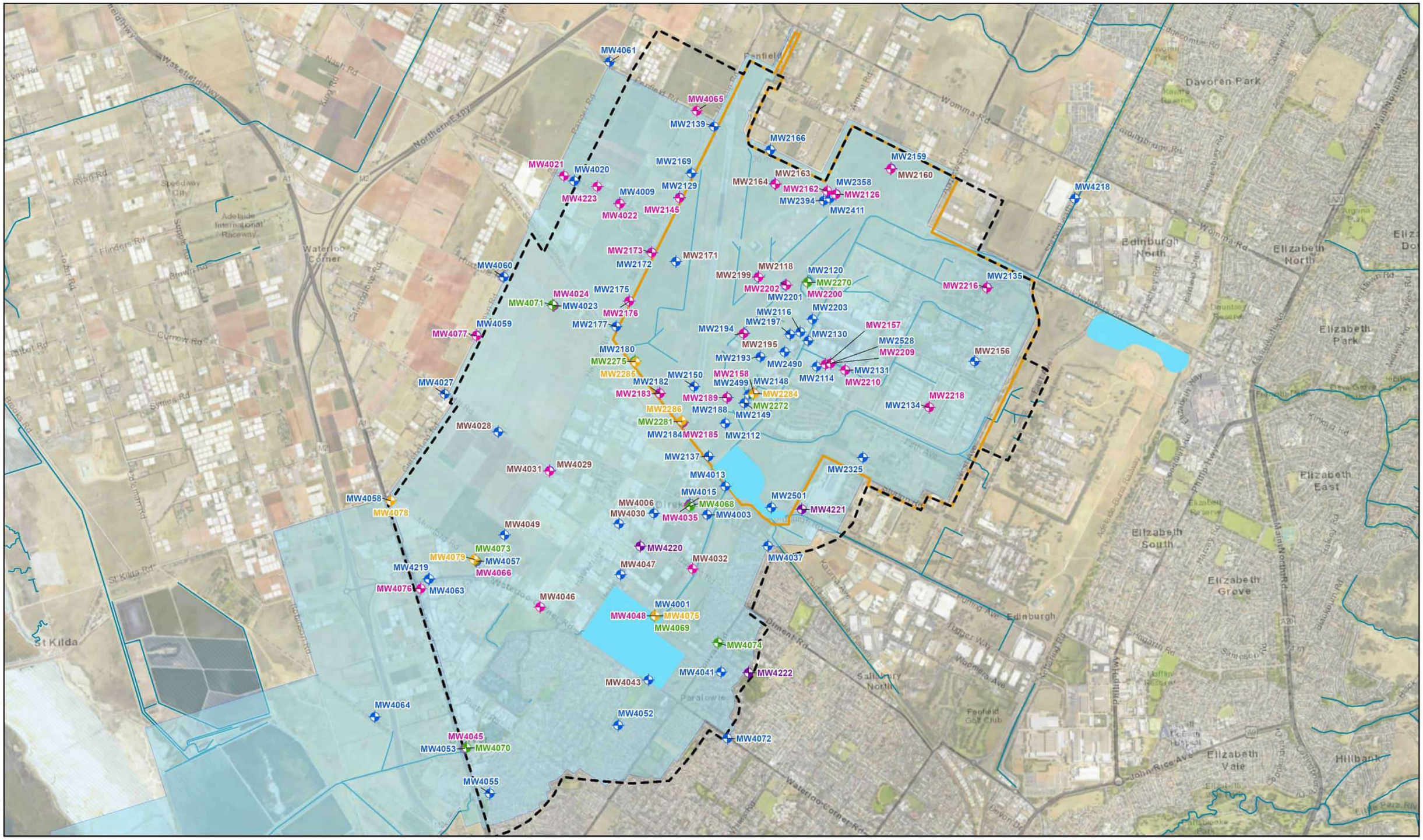
INFERRED PFAS SOURCE AREAS

PROJECT ID: 60612561
CREATED BY: [redacted]
LAST MODIFIED:
VERSION:

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GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

Gauging Locations Only

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Groundwater Prohibition Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023

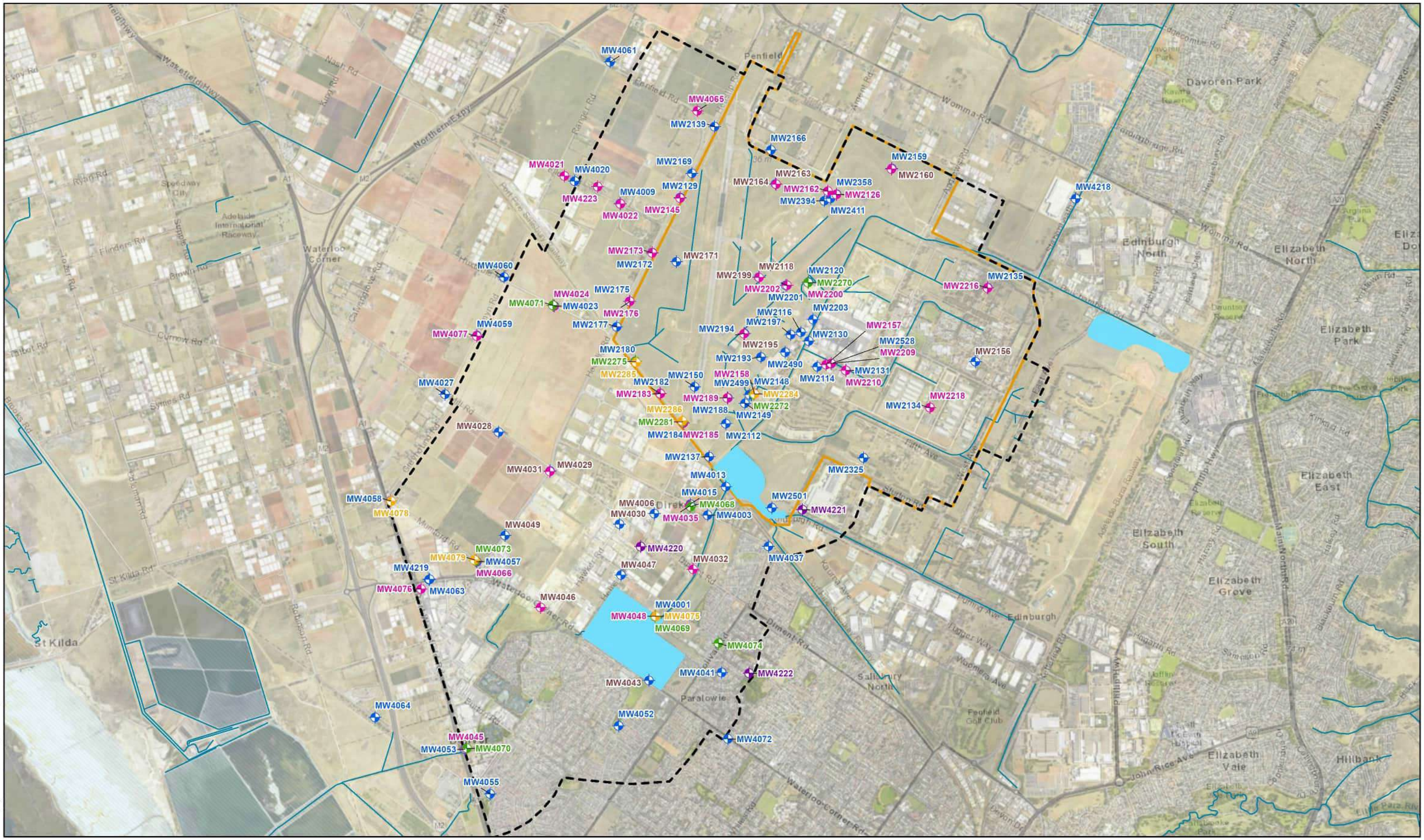
GROUNDWATER PROHIBITION AREA

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED
VERSION: 1

Figure 1.3

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A3 size



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0 0.5 1 2

Kilometre

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LEGEND

- Gauging Locations Only

Sample Locations

- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023

GROUNDWATER SAMPLE LOCATIONS

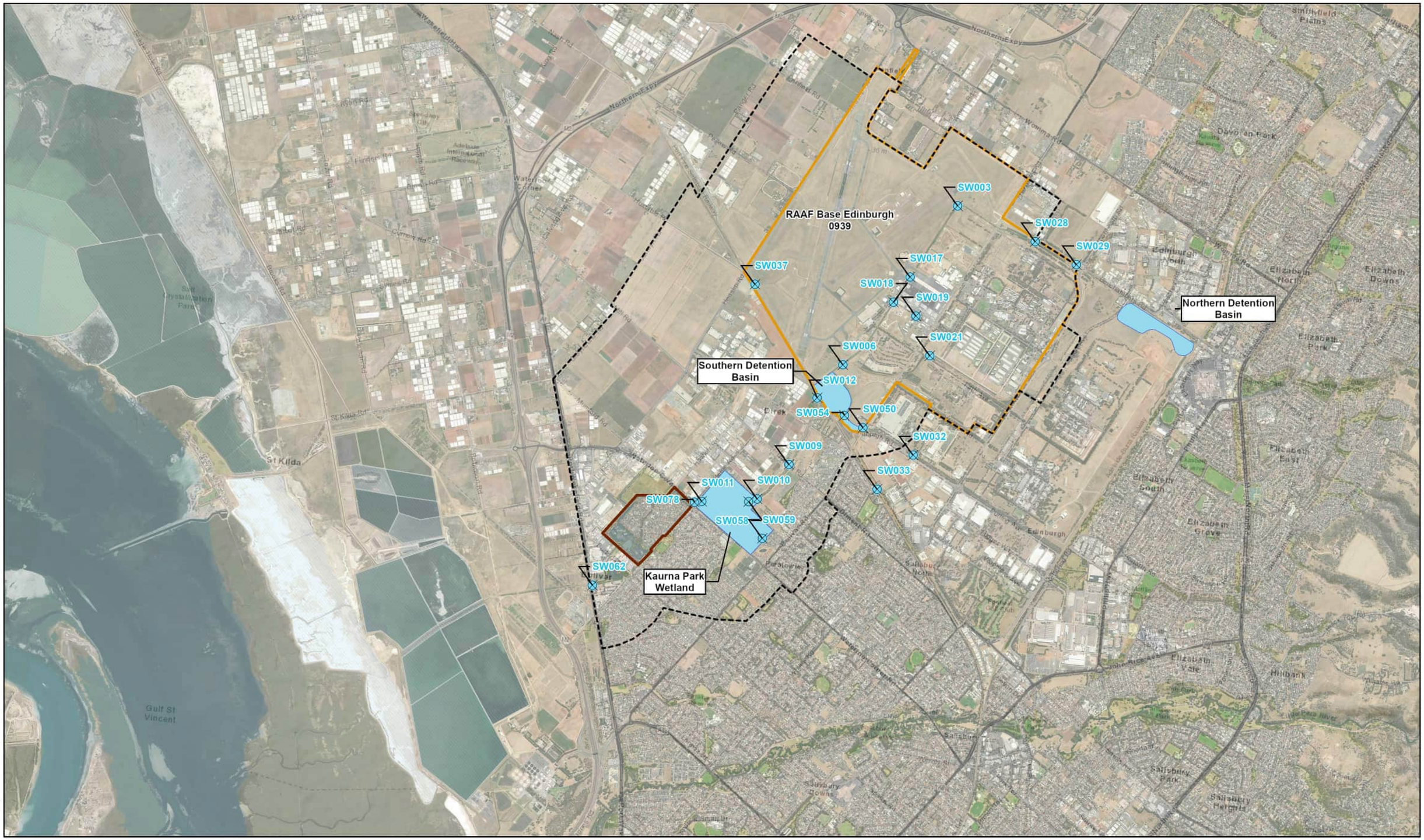
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Figure 2

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N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:45,000 (when printed at A3)

Legend

- Surface Water Sample Locations
- Detention Basin
- Springbank Waters Estate
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023

SURFACE WATER SAMPLE LOCATIONS

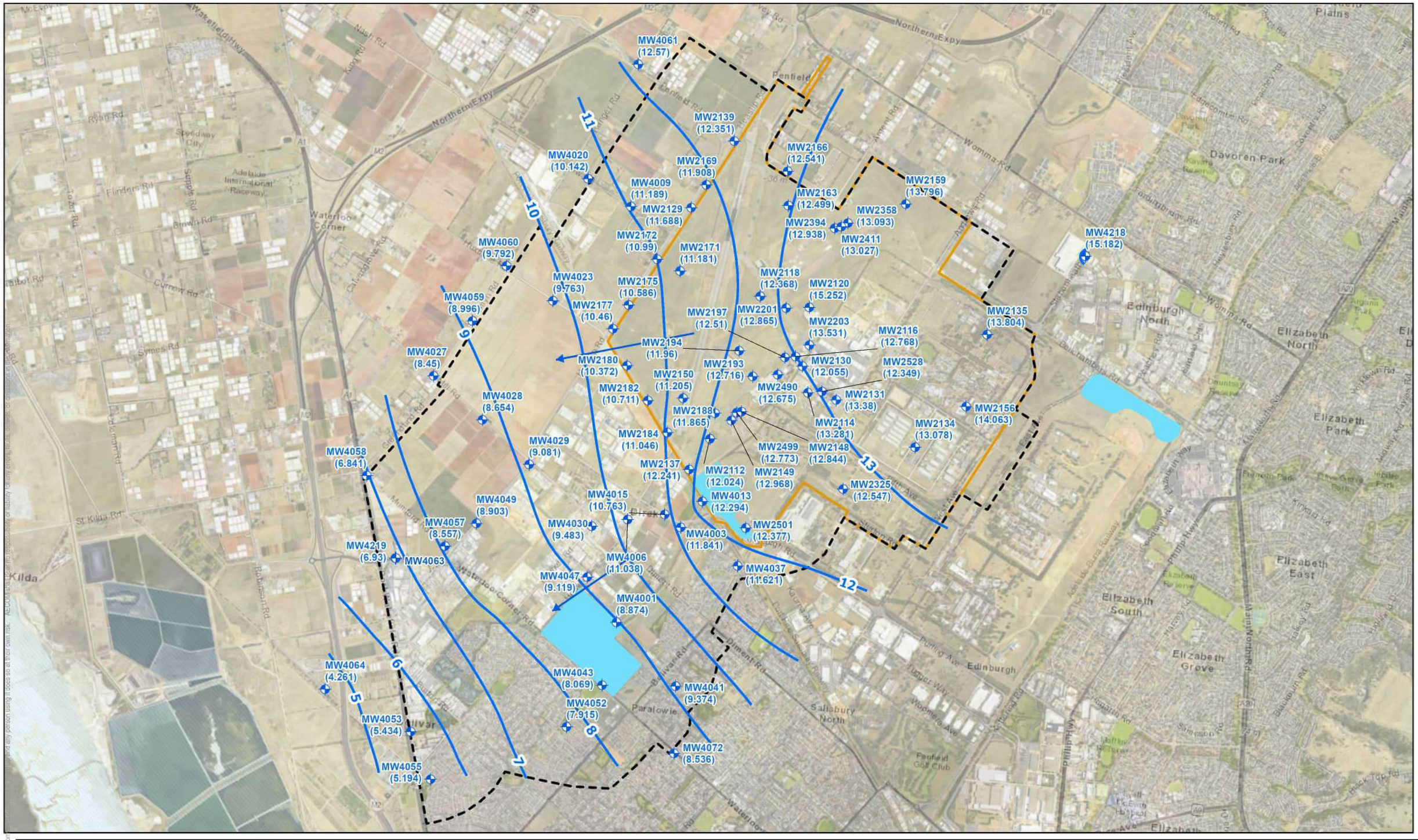
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VERSION:

Figure 3

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N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

- Q1 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023
INFERRED GROUNDWATER ELEVATION Q1 MONITORING WELLS

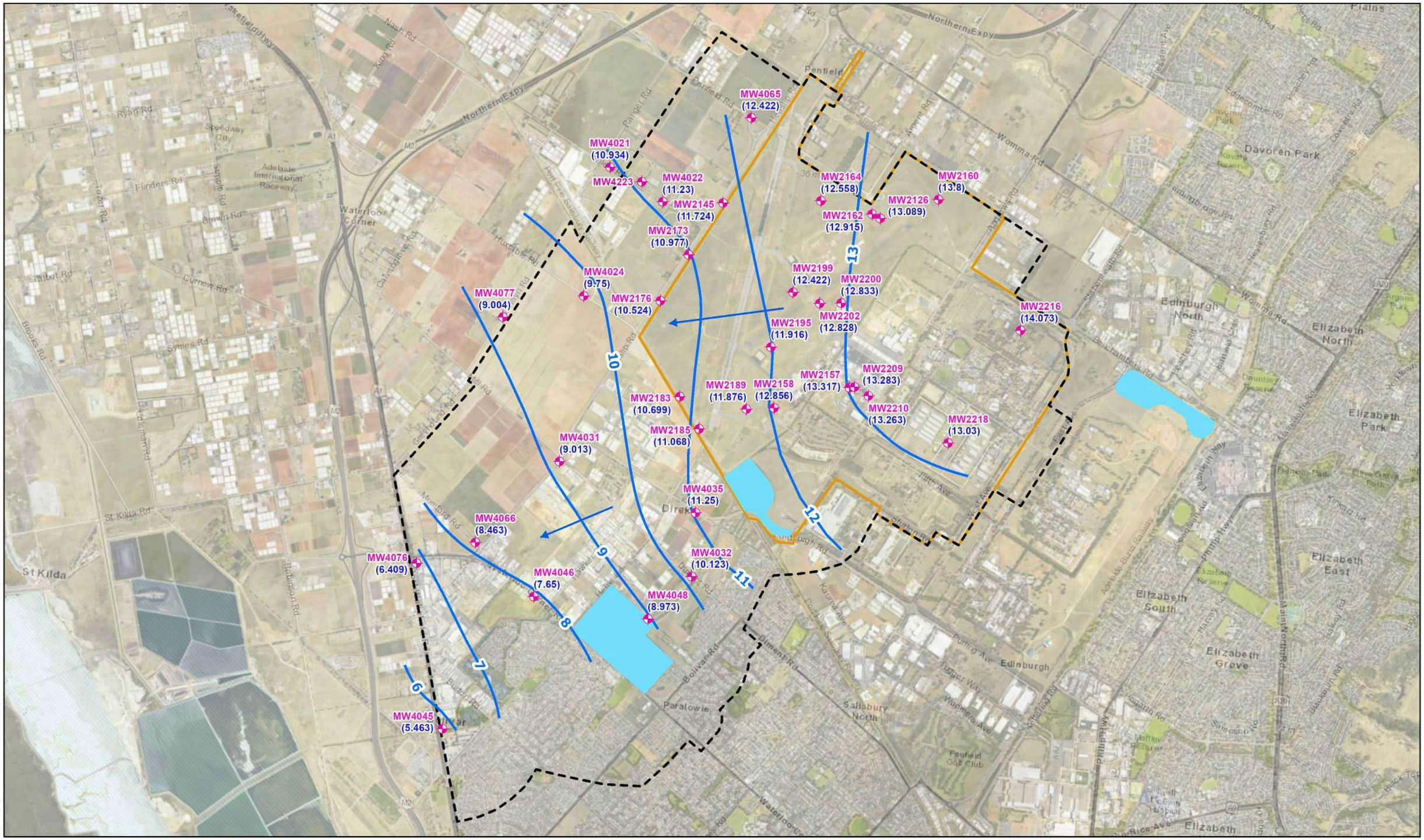
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LAST MODIFIED
VERSION:

Figure 4.1

A3 size

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N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

- Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

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Sampling Event Factual Report, Dry Season 2023
INFERRED GROUNDWATER ELEVATION Q2 MONITORING WELLS

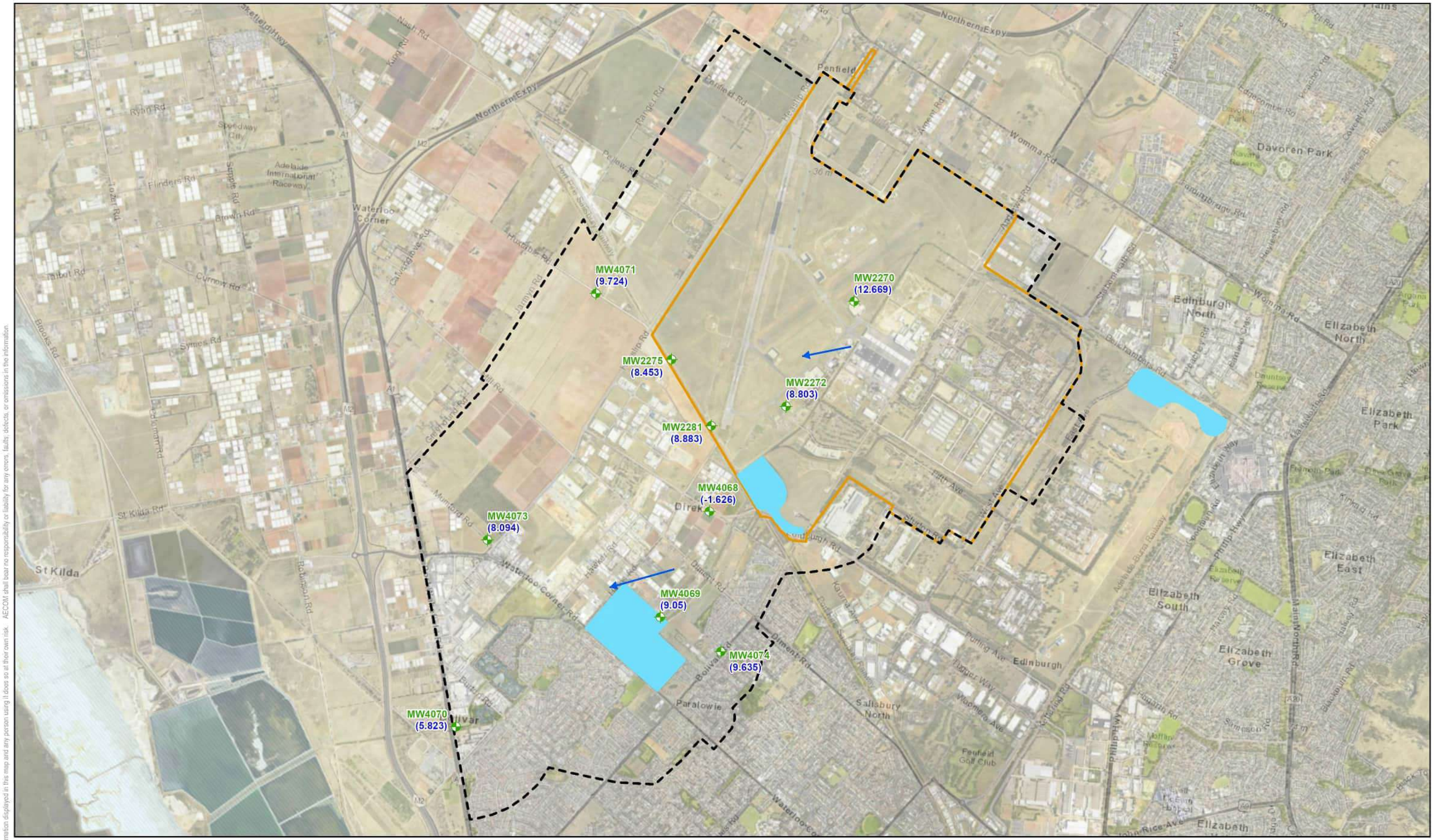
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Figure 4.2

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0 0.5 1 2

Kilometre

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LEGEND

Sample Locations

- Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP

Sampling Event Factual Report, Dry Season 2023

INFERRED GROUNDWATER ELEVATION Q3 MONITORING WELLS

PROJECT ID 60612561

CREATED BY [redacted]

LAST MODIFIED

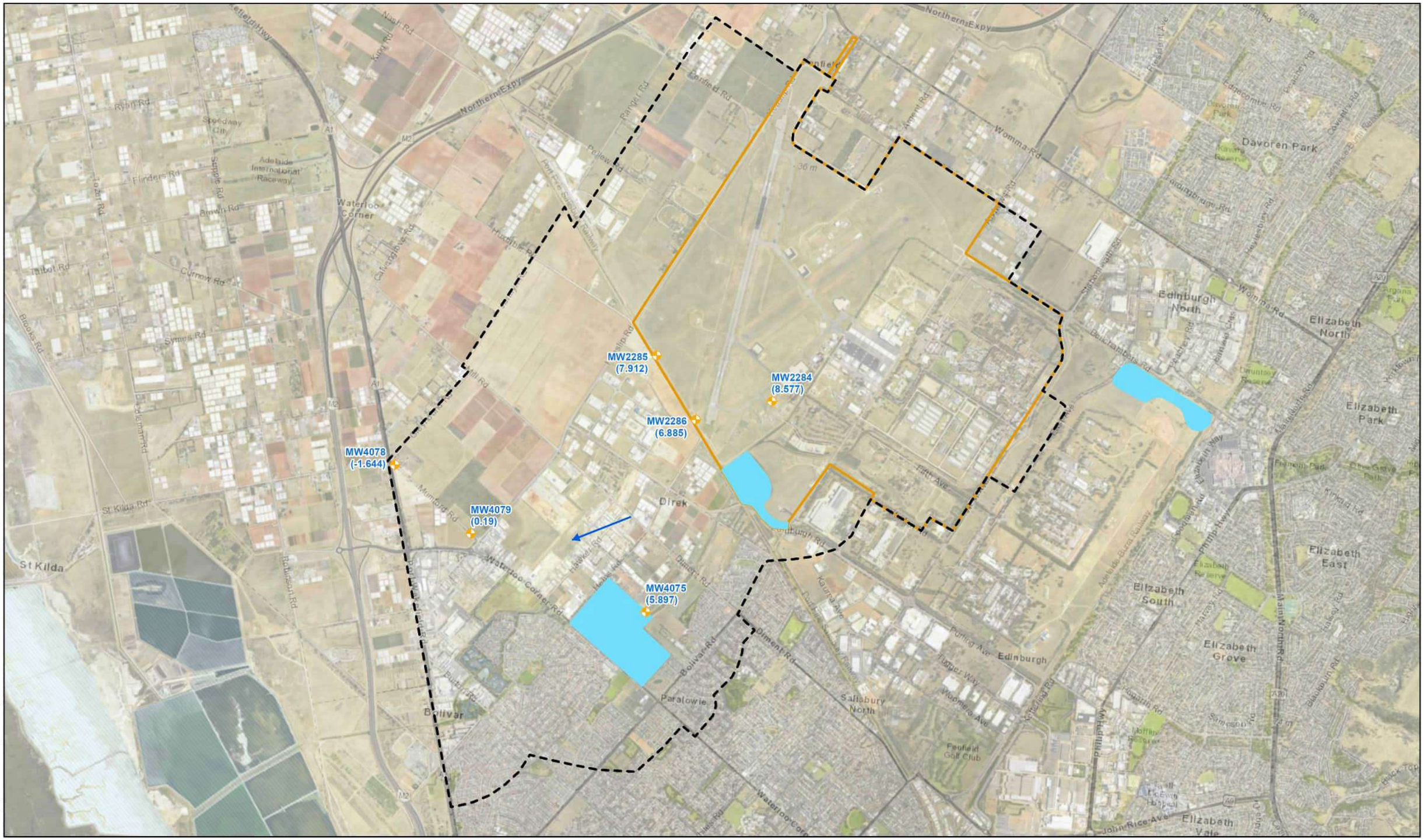
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Figure 4.3

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0 0.5 1 2

Kilometre

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LEGEND

Sample Locations

- Q4 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

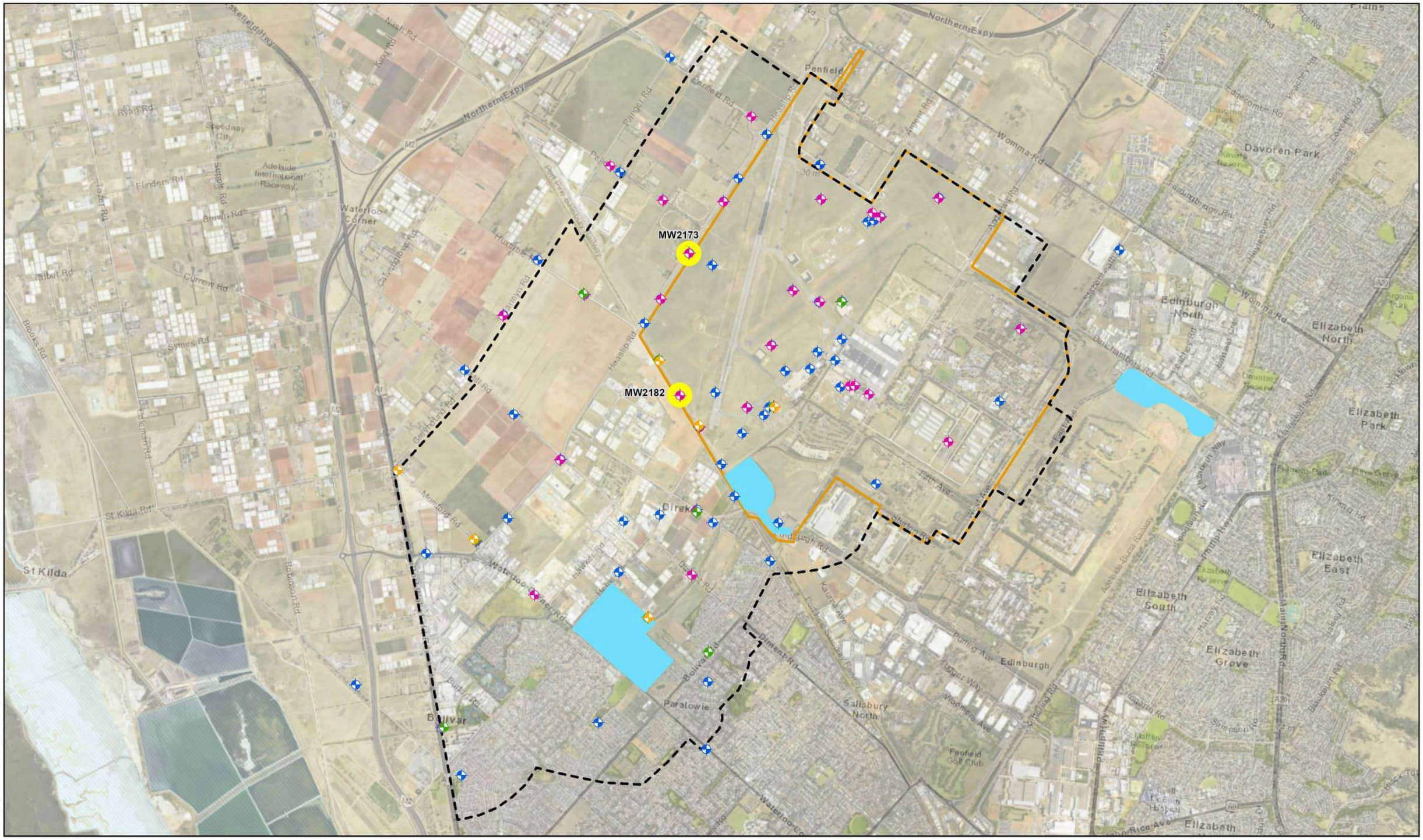
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RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023
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VERSION: 1

Figure 4.4

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A3 size



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GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer

- Denotes new exceedence of human health screening criteria
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, Dry Season 2023
GROUNDWATER RESULTS
DEVIATIONS FROM HISTORICAL DATA

PROJECT ID 60612561
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VERSION: 1

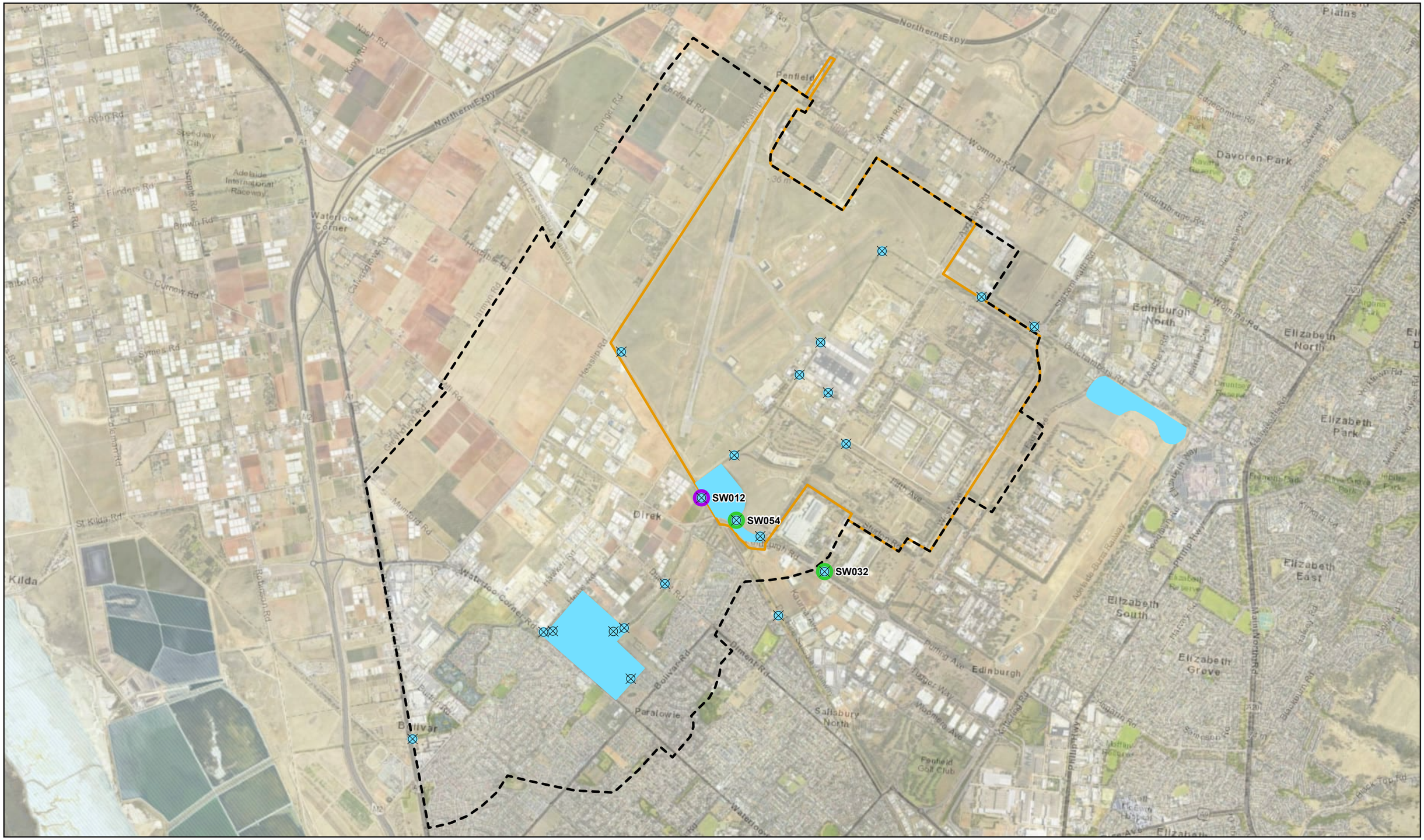
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SW012
SW054
SW032
Wakefield Hwy
Northern Expy
Nash Rd
Kuhn Rd
Penfield
Penfield Rd
Ranger Rd
Womma Rd
Davoren Park
Edinburgh North
Elizabeth North
Elizabeth Park
Elizabeth East
Elizabeth South
Elizabeth Grove
Edinburgh
Salisbury North
Paralowie
Direk
Waterloo Corner
Waterloo Corner Rd
Bolivar
Bolivar Rd
Heaslip Rd
Ryan Rd
Speedway City
Adelaide International Raceway
Flinders Rd
Blewitt Rd
Curlew Rd
Symes Rd
Talbot Rd
Tozer Rd
Temple Rd
Calidgiew Rd
Port Wakefield Rd
Penfield Gardens
Fairfield Golf Club
St Kilda
St Kilda Rd
Robinson Rd
Mumford Rd
Dalkeith Rd
Dublin Rd
Bolivar Rd
Elizabeth Way
Main North Rd
Smith Rd
Ward Rd
Curtis Rd
Edinburgh Rd
Salisbury Hwy
Black Top Rd
Kirkham Rd
Sandalwood Dr
Shepherdson Rd
Hillier Park
Fremont Park
Davoren Park
Plains
Ingle Farm
Para Hills West
Para Hills
Salisbury East
Salisbury Park
Salisbury Downs
Parafield Gardens
Parafield Airport
Gulfview Heights
Pooraka
Valley View
Modbury
Modbury North
Hope Valley
Tea Tree Gully
Golden Grove
Greenwith
Hillbank
Craigburn Farm
Para Vista
Ridgehaven
Para Hills West
Smithfield
Smithfield Plains
Munno Para
Munno Para West
Munno Para Downs
Angle Vale
Virginia
Two Wells
Lewiston
Gawler
Gawler East
Gawler South
Gawler Belt
Evanston
Evanston Park
Evanston South
Evanston Gardens
Andrews Farm
Andrews Park
Andrews Farm
Andrews Park
Andrews Farm
Andrews Park

Appendix B

Tables

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2112	30/01/2023	Q1	8.49	5.34 - 8.34	15.877	3.853	12.024	Good condition	6.01	7.93	1153	749.45	2.99	22.7	-16.7	Clear, Low turbidity, No odour, No sheen
MW2114	31/01/2023	Q1	9.00	5.86 - 8.86	17.697	4.416	13.281	Good condition	6.90	7.08	12266	7972.9	5.19	21.1	-98.6	Brown, Medium turbidity, No odour, No sheen
MW2116	31/01/2023	Q1	8.40	6.03 - 9.03	16.978	4.210	12.768	Good condition	6.30	7.31	8456	5496.4	4.81	22.6	54.4	Light Brown, Medium turbidity, No odour, No sheen
MW2118	30/01/2023	Q1	8.79	5.95 - 8.95	17.329	4.961	12.368	Good condition	-	Gauge only						
MW2120	30/01/2023	Q1	6.22	3.25 - 6.25	18.180	2.928	15.252	Good condition	4.20	7.59	1456	946.4	6.12	21.7	-8	Clear, Low turbidity, No odour, No sheen
MW2126	30/01/2023	Q2	17.28	14.28 - 17.28	20.151	7.062	13.089	Good condition	15.53	6.77	9648	6271.2	5.90	22.2	64.2	Light Brown, Medium turbidity, No odour, No sheen
MW2129	30/01/2023	Q1	6.39	3.37 - 6.37	15.881	4.193	11.688	Good condition	4.40	7.74	3064	1991.6	6.07	22.1	-133.1	Clear, Low turbidity, No odour, No sheen
MW2130	31/01/2023	Q1	8.22	5.38 - 8.38	17.483	5.428	12.055	Good condition	6.38	8.06	2884	1874.6	2.94	19.3	-21.3	Clear, Medium turbidity, No odour, No sheen
MW2131	31/01/2023	Q1	8.55	5.45 - 8.45	18.058	4.678	13.380	Good condition	6.51	7.59	1403	911.95	4.18	19.9	19.7	Clear, Low turbidity, No odour, No sheen
MW2134	31/01/2023	Q1	10.80	7.83 - 10.83	19.716	6.638	13.078	Good condition	8.89	6.93	9779	6356.35	3.92	22.7	42.4	Clear, Low turbidity, No odour, No sheen
MW2135	22/03/2023	Q1	11.00	7.97 - 10.97	20.504	6.700	13.804	Good condition	9.80	7.07	7877	5120.05	1.20	21.2	-136.1	Light Brown, Medium turbidity, No odour, No sheen
MW2137	22/03/2023	Q1	8.06	5.19 - 8.19	15.791	3.550	12.241	Good condition	6.30	7.60	3746	2434.9	1.66	20.4	-41.9	Clear, Low turbidity, No odour, No sheen
MW2139	30/01/2023	Q1	11.30	8.33 - 11.33	18.653	6.302	12.351	Good condition	9.35	7.03	11443	7437.95	5.70	22.5	-20.9	Light Brown, Medium turbidity, No odour, No sheen
MW2145	30/01/2023	Q2	25.35	22 - 25	15.840	4.116	11.724	Good condition	23.00	7.01	8019	5212.35	5.21	21.9	-195.2	Clear, Low turbidity, No odour, No sheen
MW2148	31/01/2023	Q1	10.40	7.36 - 10.36	16.490	3.646	12.844	Good condition	8.39	7.58	7852	5103.8	5.34	22.4	-7.9	Clear, Low turbidity, No odour, No sheen
MW2149	30/01/2023	Q1	7.55	4.38 - 7.38	16.626	3.658	12.968	Good condition	5.30	7.83	3392	2204.8	8.89	23.3	45.2	Clear, Low turbidity, No odour, No sheen
MW2150	30/01/2023	Q1	8.17	4.97 - 7.97	14.873	3.668	11.205	Good condition	6.06	7.57	1860	1209	5.52	22.1	44.8	Clear, Low turbidity, No odour, No sheen
MW2156	31/01/2023	Q1	9.14	6.05 - 9.05	19.773	5.710	14.063	Good condition	-	Gauge only						
MW2157	31/01/2023	Q2	18.50	15.23 - 18.23	17.777	4.460	13.317	Good condition	16.44	7.53	8015	5209.75	3.79	21.9	-218.2	Clear, Low turbidity, Organic Odour, No sheen
MW2158	31/01/2023	Q2	17.80	14.85 - 17.85	16.498	3.642	12.856	Good condition	16.47	7.40	6611	4297.15	6.44	22.1	-81.7	Light Brown, Low turbidity, No odour, No sheen
MW2159	31/01/2023	Q1	10.59	5.5 - 8.5	20.478	6.682	13.796	Good condition	7.43	7.35	10044	6528.6	5.86	21.6	82.5	Clear, Low turbidity, No odour, No sheen
MW2160	31/01/2023	Q2	23.89	19.5 - 22.5	20.433	6.633	13.800	Good condition	-	Gauge only						
MW2162	30/01/2023	Q2	20.98	17 - 21	19.721	6.806	12.915	Good condition	19.23	6.87	9857	6407.05	5.44	22.2	-194.4	Clear, Low turbidity, Organic Odour, No sheen
MW2163	30/01/2023	Q1	9.31	5.5 - 8.5	18.161	5.662	12.499	Good condition	-	Gauge only						
MW2164	30/01/2023	Q2	25.91	22.5 - 25.5	18.172	5.614	12.558	Good condition	-	Gauge only						
MW2166	30/01/2023	Q1	8.75	5 - 8	19.063	6.522	12.541	Good condition	6.10	6.98	12707	8259.55	5.66	22	-17.5	Light Brown, Medium turbidity, No odour, No sheen
MW2169	30/01/2023	Q1	8.00	4.5 - 7.5	16.608	4.700	11.908	Good condition	6.25	7.1	9574	6223.1	4.87	21.9	-89.4	Brown, High turbidity, No odour, No sheen
MW2171	30/01/2023	Q1	10.05	6.2 - 9.5	16.471	5.290	11.181	Good condition	-	Gauge only						
MW2172	30/01/2023	Q1	10.27	6.5 - 9.5	15.828	4.838	10.990	Good condition	7.50	7.32	14106	9168.9	4.23	22	-227.4	Clear, Low turbidity, No odour, No sheen
MW2173	30/01/2023	Q2	20.35	16.5 - 21	15.882	4.905	10.977	Good condition	18.63	8.14	25351	16478.15	5.24	22.3	-307.4	Clear, Low turbidity, Organic Odour, No sheen
MW2175	30/01/2023	Q1	9.15	5.3 - 8.3	14.438	3.852	10.586	Good condition	6.19	7.04	21300	13845	6.22	21.4	93.4	Clear, Low turbidity, No odour, No sheen
MW2176	30/01/2023	Q2	23.10	19.2 - 22.2	14.282	3.758	10.524	Good condition	20.40	6.77	25849	16801.85	4.18	22.2	-125.4	Clear, Low turbidity, No odour, No sheen
MW2177	30/01/2023	Q1	7.82	4.2 - 7.2	13.902	3.442	10.460	Good condition	5.27	7.46	9884	6424.6	6.27	22	68.7	Clear, Low turbidity, No odour, No sheen
MW2180	30/01/2023	Q1	10.00	4 - 10	14.195	3.823	10.372	Good condition	5.91	7.85	3064	1991.6	6.29	21.8	5.3	Clear, Low turbidity, No odour, No sheen
MW2182	30/01/2023	Q1	6.98	4.1 - 10	13.821	3.110	10.711	Good condition	5.02	7.79	5504	3577.6	5.36	21.5	-97.4	Clear, Medium turbidity, No odour, No sheen
MW2183	30/01/2023	Q2	19.70	16.2 - 20	14.831	4.132	10.699	Good condition	17.92	6.95	12935	8407.75	6.31	22.1	58.1	Clear, Low turbidity, No odour, No sheen
MW2184	30/01/2023	Q1	6.10	3.2 - 8.3	14.438	3.392	11.046	Good condition	4.14	8.04	2365	1537.25	4.12	21.8	-38.3	Clear, Low turbidity, No odour, No sheen
MW2185	30/01/2023	Q2	18.74	16.5 - 18	15.286	4.218	11.068	Good condition	16.96	7.6	6721	4368.65	5.60	21.1	113.1	Clear, Low turbidity, No odour, No sheen
MW2188	30/01/2023	Q1	5.51	2.5 - 5.5	15.460	3.595	11.865	Good condition	3.58	7.62	7572	4921.8	5.30	24.3	53.9	Clear, Low turbidity, No odour, No sheen

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2189	30/01/2023	Q2	20.69	17 - 21	15.201	3.325	11.876	Good condition	18.52	7.97	2605	1693.25	5.41	24.4	-99.6	Clear, Low turbidity, organic odour, No sheen
MW2193	30/01/2023	Q1	6.42	3.5 - 6.5	15.918	3.202	12.716	Good condition	4.42	7.62	4680	3042	5.76	22.7	-123	Light Brown, Low turbidity, No odour, No sheen
MW2194	30/01/2023	Q1	9.34	7 - 10	15.310	3.350	11.960	Good condition	7.40	7.14	20593	13385.45	6.61	22.2	33.2	Light Brown, Low turbidity, No odour, No sheen
MW2195	30/01/2023	Q2	23.21	19 - 24	16.050	4.134	11.916	Good condition	-						Gauge only	
MW2197	30/01/2023	Q1	8.06	4.5 - 7.5	17.642	5.132	12.510	Good condition	6.09	7.64	7587	4931.55	6.14	24.1	15.3	Light Brown, Medium turbidity, No odour, No sheen
MW2199	30/01/2023	Q2	23.95	20 - 24	17.177	4.755	12.422	Good condition	-						Gauge only	
MW2200	30/01/2023	Q2	19.65	16.5 - 19.5	17.903	5.070	12.833	Good condition	17.64	8.63	14066	9142.9	3.13	21.6	-240.9	Clear, Low turbidity, Organic Odour, No sheen
MW2201	30/01/2023	Q1	9.82	7 - 10	16.395	3.530	12.865	Good condition	7.85	7.12	5327	3462.55	3.48	22.4	-156	Clear, Low turbidity, No odour, No sheen
MW2202	30/01/2023	Q2	23.86	19 - 24	16.473	3.645	12.828	Good condition	21.28	6.92	6107	3969.55	3.91	22	-118.9	Grey, Medium turbidity, No odour, No sheen
MW2203	30/01/2023	Q1	7.85	5 - 8	16.772	3.241	13.531	Good condition	5.90	7.33	5243	3407.95	5.18	23.9	46.7	Clear, Low turbidity, No odour, No sheen
MW2209	31/01/2023	Q2	21.98	18.5 - 24	17.075	3.792	13.283	Good condition	19.80	7.21	7457	4847.05	5.07	20.6	-205.7	Light Grey, Medium turbidity, Organic Odour, No sheen
MW2210	31/01/2023	Q2	21.58	17.1 - 20.4	18.087	4.824	13.263	Good confition, ph bump tested, reading correctly	19.46	11.72	4876	3169.4	4.36	20.3	-204.9	Clear, Low turbidity, No odour, No sheen
MW2216	31/01/2023	Q2	21.88	18 - 21	20.468	6.395	14.073	Good condition	19.22	7.07	5984	3889.6	4.51	22.5	49.1	Clear, turbidity, No odour, No sheen
MW2218	31/01/2023	Q2	21.26	17 - 20.5	19.774	6.744	13.030	Good condition	19.20	7.26	6949	4516.85	4.77	24	26.1	Clear, Low turbidity, No odour, No sheen
MW2270	30/01/2023	Q3	39.97	33 - 42	18.100	5.431	12.669	Good condition	37.46	6.73	9592	6234.8	4.71	23.3	-25	Light Brown, Medium turbidity, No odour, No sheen
MW2272	31/01/2023	Q3	42.10	36 - 42	16.499	7.696	8.803	Good condition	40.90	7.84	7425	4826.25	3.36	23.4	218.6	Clear, Medium turbidity, No odour, No sheen
MW2275	30/01/2023	Q3	47.80	40.5 - 46.5	14.121	5.668	8.453	Good condition	46.12	7.02	7552	4908.8	5.52	22.7	-90.6	Clear, Low turbidity, No odour, No sheen
MW2281	30/01/2023	Q3	39.67	35.5 - 39	15.229	6.346	8.883	Good condition	38.60	7.12	9691	6299.15	4.08	21.8	19.8	Clear, Low turbidity, No odour, No sheen
MW2284	31/01/2023	Q4	59.90	55 - 61	16.509	7.932	8.577	Good condition	58.00	7.47	5591	3634.15	1.76	23.8	-209	Clear, Low turbidity, No odour, No sheen
MW2285	22/03/2023	Q4	58.00	51 - 57	14.287	6.375	7.912	Good condition	56.00	7.6	3760	2444	1.03	21.4	-130.1	Clear, Low turbidity, No odour, No sheen
MW2286	30/01/2023	Q4	52.34	51 - 57	15.323	8.438	6.885	White sediment at bottom of sleeve	51.30	10.28	2399	1559.35	4.63	22.7	-24.18	Other, Medium turbidity, No odour, No sheen
MW2325	31/01/2023	Q1	10.90	7.9-10.9	19.127	6.580	12.547	Good condition	8.95	7	7626	4956.9	5.20	21.7	65.4	Clear, Low turbidity, No odour, No sheen
MW2358	30/01/2023	Q1	11.03	8.01 - 11.01	20.062	6.969	13.093	Good condition	9.00	6.74	9613	6248.45	4.71	21.9	-63.9	Clear, Low turbidity, No odour, No sheen
MW2394	30/01/2023	Q1	11.71	8.74 - 11.74	18.788	5.850	12.938	Good condition	9.83	6.89	11463	7450.95	5.44	21.9	-177.3	Clear, Low turbidity, Organic Odour, No sheen
MW2411	30/01/2023	Q1	11.40	7.42 - 10.42	18.718	5.691	13.027	Good condition	8.47	6.98	10713	6963.45	1.66	21.4	-154.9	Light Grey, Low turbidity, Organic Odour, No sheen
MW2490	31/01/2023	Q1	8.53	4.6 - 7.6	17.580	4.905	12.675	Good condition	6.47	7.79	3343	2172.95	3.39	20.5	129.5	Clear, Low turbidity, No odour, No sheen
MW2499	1/02/2023	Q1	7.92	6.06 - 9.06	15.769	2.996	12.773	Good condition	7.06	8.16	1958	1272.7	5.64	21.5	20.7	Clear, Low turbidity, No odour, No sheen
MW2501	31/01/2023	Q1	10.75	7.61 - 10.61	15.673	3.296	12.377	Good condition	8.62	7.61	3825	2486.25	5.76	21.5	12.1	Orange, Medium turbidity, No odour, No sheen
MW2528	31/01/2023	Q1	9.00	6.06 - 9.06	17.181	4.832	12.349	Good condition	7.18	7.79	2278	1480.7	4.39	20.3	-141	Clear, Low turbidity, No odour, No sheen
MW4001	16/02/2023	Q1	9.55	6.56 - 9.56	12.909	4.035	8.874	Good condition	7.67	8.22	1269	824.85	1.47	19.7	-69.7	Clear, Low turbidity, No odour, No sheen
MW4003	1/02/2023	Q1	7.83	4.63 - 7.63	13.460	1.619	11.841	Good condition	5.82	7.55	6349	4126.85	2.36	20.5	-59.1	Clear, Low turbidity, No odour, No sheen
MW4006	16/02/2023	Q1	7.25	4.25 - 7.25	13.283	2.245	11.038	Good condition	-						Gauge only	
MW4009	1/02/2023	Q1	21.80	6.5 - 9.5	14.370	3.181	11.189	Good condition	6.81	7.1	7372	4791.8	2.31	20.3	-31	Clear, Low turbidity, , No sheen
MW4013	16/02/2023	Q1	5.00	3.95 - 6.95	13.123	0.829	12.294	Good condition	3.00	7.96	1887	1226.55	2.81	26.8	3.7	Clear, Low turbidity, No odour, No sheen
MW4015	15/02/2023	Q1	7.00	3.96 - 6.96	13.627	2.864	10.763	Good condition	4.90	7.67	4191	2724.15	1.72	23.7	84.9	Orange / Brown, High turbidity, No odour, No sheen
MW4020	1/02/2023	Q1	8.27	5.4 - 8.4	13.970	3.828	10.142	Good condition	6.35	7.2	5727	3722.55	3.64	20.9	17.2	Clear, Low turbidity, No odour, No sheen
MW4021	15/02/2023	Q2	17.85	15 - 18	13.697	2.763	10.934	Good condition	16.05	7.09	5609	3645.85	2.12	22.3	95.5	Clear, Low turbidity, No odour, No sheen
MW4022	1/02/2023	Q2	21.80	19 - 22.5	14.423	3.193	11.230	Good condition	19.80	7.31	4778	3105.7	2.11	20.80	-163.5	Brown, Medium turbidity, No odour, No sheen
MW4023	16/02/2023	Q1	8.00	5 - 8	11.855	2.092	9.763	Good condition	5.90	7.01	24227	15747.55	1.14	24.4	12.9	Orange / Brown, Medium turbidity, No odour, No sheen
MW4024	16/02/2023	Q2	17.78	15 - 21	11.895	2.145	9.750	Good condition	16.30	7.53	21808	14175.2	3.23	22.8	1.5	Clear, Low turbidity, No odour, No sheen

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Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW4027	15/02/2023	Q1	7.89	5 - 8	9.532	1.082	8.450	Good condition	5.97	7.16	450.2	292.63	1.61	22.9	-222.8	Clear, Low turbidity, No odour, No sheen
MW4028	1/02/2023	Q1	7.92	5 - 8	10.396	1.742	8.654	Damaged gatic	-						Gauge only	
MW4029	15/02/2023	Q1	8.41	5.5 - 8.5	11.916	2.835	9.081	Good condition	-						Gauge only	
MW4030	16/02/2023	Q1	8.37	5.3 - 8.5	11.755	2.272	9.483	Good condition	-						Gauge only	
MW4031	15/02/2023	Q2	23.12	21 - 24	11.831	2.818	9.013	Good condition	-						Gauge only	
MW4032	16/02/2023	Q2	9.52	16.5 - 19.5	12.948	2.825	10.123	Good condition	-						Gauge only	
MW4035	16/02/2023	Q2	22.65	19 - 22.5	13.735	2.485	11.250	Good condition	20.51	7.72	1395	906.75	1.04	26.3	-218.5	Clear, Low turbidity, No odour, No sheen
MW4037	16/02/2023	Q1	8.15	5 - 8	15.193	3.572	11.621	Good condition	6.07	7.22	5435	3532.75	1.56	24.6	1.8	Clear, Low turbidity, No odour, No sheen
MW4041	16/02/2023	Q1	10.10	7 - 10	14.606	5.232	9.374	Good condition	8.07	7.15	3451	2243.15	1.41	26.1	-6.2	Light Yellow / Brown, Medium turbidity, No odour, No sheen
MW4043	15/02/2023	Q2	7.92	5 - 10	12.125	4.056	8.069	Good condition	-						Gauge only	
MW4045	15/02/2023	Q2	19.00	15 - 18	7.328	1.865	5.463	Good condition	16.34	7.81	3510	2281.5	2.01	22.4	-147.4	Clear, Low turbidity, No odour, No sheen
MW4046	1/02/2023	Q2	6.62	3.5 - 6.5	9.190	1.540	7.650	Good condition	-						Gauge only	
MW4047	16/02/2023	Q1	8.52	5.5 - 8.5	11.657	2.538	9.119	Good condition	-						Gauge only	
MW4048	16/02/2023	Q2	20.98	18 - 21	12.975	4.002	8.973	Good condition	19.30	8.57	930	604.5	2.64	20.2	-115.2	Clear, Low turbidity, No odour, No sheen
MW4049	16/02/2023	Q1	8.40	5.5 - 8.5	10.643	1.740	8.903	Good condition	-						Gauge only	
MW4052	15/02/2023	Q1	9.81	6.5 - 9.5	12.057	4.142	7.915	Good condition	7.50	7.9	1396	907.4	2.51	21.4	-10.5	Light Brown, Medium turbidity, No odour, No sheen
MW4053	15/02/2023	Q1	4.29	5.25 - 8.5	7.450	2.016	5.434	Good condition	6.20	7.8	2440	1586	1.54	21.3	-62.6	Light Brown, Medium turbidity, No odour, No sheen
MW4055	15/02/2023	Q1	9.00	6 - 9	7.883	2.689	5.194	Good condition	7.00	7.58	4210	2736.5	2.81	22.4	-22.1	Light Brown, Medium turbidity, No odour, No sheen
MW4057	15/02/2023	Q1	8.00	5 - 8	9.429	0.872	8.557	Good condition	6.00	7.73	6568	4269.2	1.45	20.1	-141.7	Orange / Brown, High turbidity, No odour, No sheen
MW4058	15/02/2023	Q1	5.25	2.5 - 5.5	9.407	2.566	6.841	Good condition	3.50	7.22	8060	5239	0.93	20.7	89	Clear, Low turbidity, No odour, No sheen
MW4059	15/02/2023	Q1	8.00	5 - 8	10.204	1.208	8.996	Good condition	5.90	7.28	13531	8795.15	2.15	25.7	61.1	Clear, Low turbidity, No odour, No sheen
MW4060	15/02/2023	Q1	7.00	3.9 - 6.9	11.386	1.594	9.792	Good condition	4.50	7.38	5159	3353.35	1.49	23.7	-201.4	Clear, Low turbidity, No odour, No sheen
MW4061	1/02/2023	Q1	7.95	5 - 8	16.538	3.968	12.570	Good condition	6.00	7.57	3802	2471.3	3.48	19.9	-123.8	Brown, High turbidity, No odour, No sheen
MW4064	30/01/2023	Q1	7.81	5 - 8	5.885	1.624	4.261	Good condition	5.80	7.46	5755	3740.75	2.01	24	-90.7	Clear, Low turbidity, No odour, No sheen
MW4065	1/02/2023	Q2	20.04	17 - 20	17.754	5.332	12.422	Good condition	18.30	7.49	4271	2776.15	2.72	20.2	-96.1	Clear, Low turbidity, No odour, No sheen
MW4066	15/02/2023	Q2	18.00	15 - 18	9.478	1.015	8.463	Good condition	16.00	7.56	11966	7777.9	1.79	20.3	-45.5	Light Yellow / Brown, Low turbidity, No odour, No sheen
MW4068	15/02/2023	Q3	44.60	42 - 45	13.749	15.375	-1.626	Good condition	43.82	11.49	2314	1504.1	1.41	21.4	-82.5	Light Grey, Medium turbidity, No odour, No sheen
MW4069	16/02/2023	Q3	-	31.5 - 36	12.920	3.870	9.050	Good condition	33.25	7.7	3528	2293.2	2.51	20.5	-79.2	Clear, Low turbidity, No odour, No sheen
MW4070	15/02/2023	Q3	45.00	30 - 45	7.311	1.488	5.823	Good condition	43.00	7.43	2332	1515.8	2.13	22.8	-196.7	Black, Medium turbidity, No odour, No sheen
MW4071	16/02/2023	Q3	29.60	27 - 30	12.009	2.285	9.724	Good condition	27.00	7.72	13120	8528	0.81	24.3	-274	Clear, Low turbidity, Organic Odour, No sheen
MW4072	1/02/2023	Q1	13.90	10 - 13	17.147	8.611	8.536	Good condition	10.99	7.22	2115	1374.75	2.48	22.2	34.8	Clear, Low turbidity, No odour, No sheen
MW4073	15/02/2023	Q3	-	40.5 - 43.5	9.458	1.364	8.094	Good condition	41.50	7.94	9960	6474	2.41	21.3	-289	Clear, Low turbidity, Rotten egg smell (sulfurous), No sheen
MW4074	16/02/2023	Q3	37.50	33 - 39	14.060	4.425	9.635	Good condition	37.53	8.27	2119	1377.35	1.24	26.2	-247.8	Light Grey, High turbidity, No odour, No sheen
MW4075	16/02/2023	Q4	-	45 - 48	13.059	7.162	5.897	Good condition	46.12	7.85	11948	7766.2	2.13	22	-206.3	Clear, Low turbidity, Rotten egg smell (sulfurous), No sheen
MW4076	15/02/2023	Q2	-	15 - 18	7.942	1.533	6.409	Good condition	15.91	7.07	1850	1202.5	1.13	21.9	-252.1	Black, High turbidity, No odour, No sheen
MW4077	15/02/2023	Q2	18.00	15 - 18	10.232	1.228	9.004	Good condition	15.95	7.1	12143	7892.95	1.87	22.3	-164.3	Clear, Low turbidity, No odour, No sheen
MW4078	15/02/2023	Q4	53.20	51 - 54	9.537	11.181	-1.644	Good condition	52.00	7.23	16378	10645.7	2.19	20.1	152.2	Clear, Low turbidity, No odour, No sheen
MW4079	15/02/2023	Q4	57.01	52.5 - 57	9.505	9.315	0.190	Good condition	55.00	12.18	10848	7051.2	4.12	21.2	-102.7	Light Grey, High turbidity, No odour, No sheen
MW4218	1/02/2023	Q1	9.70	7 - 10	21.857	6.675	15.182	Good condition	8.50	6.77	19005	12353.25	2.18	21.1	-22.8	Brown, Medium turbidity, No odour, No sheen
MW4219	1/02/2023	Q1	8.50	5.5 - 8.5	8.978	2.048	6.930	Good condition	6.50	7.44	9671	6286.15	3.04	21.3	228.4	Clear, Low turbidity, , No sheen
MW4220	1/02/2023	T1	105.00	94 - 107	-	12.406	-	Key from DEW required for access	103.00	7.59	1576	1024.4	2.11	21.9	-128.2	Black, High turbidity, No odour, No sheen
MW4221	16/02/2023	T1	-	96 - 110	-		-	Good condition	-	7.4	1696	1102.4	3.50	24.8	-126.2	Clear, Low turbidity, No odour, No sheen
MW4222	16/02/2023	T1	-	102 - 120	-		-	Good condition	-	7.52	1160	754	3.31	25.4	-15	Clear, Low turbidity, No odour, No sheen
MW4223	3/02/2023	Q2	-	23.8 - 27	-		-	Good condition, private bore	-	7.03	5598	3638.7	3.12	15	-5.8	Clear, Low turbidity, No odour, No sheen

Notes:
m AHD: metres above Australian Height Datum
m BTOC: metres Below Top Of Casing
°C: Degrees Celsius
mg/L: Milligrams per litre (ppm w/v)
mV: Millivolts
µS/cm: Micro Siemens per centimetre
EC: Electrical Conductivity
* Approximate value determined using the following equation: TDS (mg/L) = EC x 0.65
- : no data

Table T2: Groundwater Analytical Results

| | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | |

Table T2: Groundwater Analytical Results

						Per- and Poly-fluoroalkyl Substances																																
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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	µg/L
LOR						0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.07**	**0.56**	**0.07**																										**0.07**	
Location Code	**Field ID**	**Sampled Date**	**Aquifer**	**Sample Type**	**Lab Report Number**																															
MW2193	0939_MW2193_230123	30/01/2023	Q1	Primary	EM2302832	**48.1**	**1.42**	**29.6**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	4.8	1.42	<0.04	8.63	2.01	0.75	0.06	<0.04	<0.04	4.06	0.5	<0.1	<0.1	<0.1	<0.1	<0.04	0.08	<0.04	**77.7**	101
MW2194	0939_MW2194_230130	30/01/2023	Q1	Primary	EM2302832	**0.8**	0.02	**0.47**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.27**	1.49
MW2197	0939_MW2197_230123	30/01/2023	Q1	Primary	EM2302832	**353**	**11.5**	**160**	<0.05	0.1	<0.05	<0.05	<0.04	<0.04	<0.09	30.9	7.02	0.1	37.6	15.4	5.47	<0.04	<0.04	<0.04	18.1	2	<0.09	<0.09	<0.09	<0.09	<0.04	0.3	<0.04	**513**	641
MW2200	0939_MW2200_230130	30/01/2023	Q2	Primary	EM2302832	**43.4**	**2.58**	**45.6**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.48	1.8	<0.02	9.11	2.95	1.28	<0.02	<0.02	<0.02	5.76	0.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**89**	118
MW2201	0939_MW2201_230130	30/01/2023	Q1	Primary	EM2302832	**0.2**	<0.01	**0.22**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.42**	0.44
MW2202	0939_MW2202_230130	30/01/2023	Q2	Primary	EM2302832	0.06	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.07**	0.07
MW2203	0939_MW2203_230130	30/01/2023	Q1	Primary	EM2302832	**3750**	**58.5**	**797**	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.97	111	35.3	0.52	193	62.3	25.2	<0.39	<0.39	<0.39	71.5	6.3	<0.97	<0.97	<0.97	<0.97	<0.39	<0.39	<0.39	**4550**	5110
	0939_QC102_230130			Intralab Duplicate	EM2302832	**3440**	**58.9**	**728**	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.93	112	34.6	0.63	187	58.3	25.5	<0.37	<0.37	<0.37	70.4	6.2	<0.93	<0.93	<0.93	<0.93	<0.37	<0.37	<0.37	**4170**	4720
	0939_QC202_230130			Interlab Duplicate	RN1384535	**4100**	**55**	**930**	<0.01	0.42	<0.01	<0.01	<0.01	<0.02	<0.02	90	38	0.4	180	50	23	<0.01	<0.01	0.059	77	24	<0.02	<0.05	<0.02	<0.05	<0.01	0.097	<0.01	**5030**	5568
MW2209	0939_MW2209_230131	31/01/2023	Q2	Primary	EM2302832	**0.2**	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.2**	0.2
MW2210	0939_MW2210_230131	31/01/2023	Q2	Primary	EM2302832	**65.5**	**3.12**	**39.7**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	6.62	2.38	<0.04	10.5	7.26	1.73	<0.04	<0.04	<0.04	8.32	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**105**	146
MW2216	0939_MW2216_230131	31/01/2023	Q2	Primary	EM2302832	0.02	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW2218	0939_MW2218_230131	31/01/2023	Q2	Primary	EM2302832	**0.43**	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.47**	0.47
MW2270	0939_MW2270_220725	30/01/2023	Q3	Primary	EM2302832	**0.82**	0.05	**0.99**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.03	<0.02	0.2	0.05	0.03	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.81**	2.45
MW2272	0939_MW2272_230131	31/01/2023	Q3	Primary	EM2302832	**4.44**	0.42	**4.45**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.79	0.31	<0.02	1.28	0.38	0.23	<0.02	<0.02	<0.02	0.95	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**8.89**	13.4
MW2275	0939_MW2275_230130	30/01/2023	Q3	Primary	EM2302832	**0.38**	0.13	**1.48**	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.21	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.86**	2.42
MW2281	0939_MW2281_230130	30/01/2023	Q3	Primary	EM2302832	**1.83**	0.04	**0.76**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.1	0.06	<0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.59**	2.97
MW2284	0939_MW2284_230131	31/01/2023	Q4	Primary	EM2302832	**2.25**	0.21	**2.39**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.38	0.15	<0.02	0.64	0.18	0.11	<0.02	<0.02	<0.02	0.46	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**4.64**	6.77
MW2285	0939_MW2285_230322	22/03/2023	Q4	Primary	EM2305133	**0.22**	<0.01	0.06	<0.05	0.25	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.28**	0.53
	0939_QC115_230322			Intralab Duplicate	EM2305133	**0.23**	<0.01	0.06	<0.05	0.25	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.29**	0.54
	0939_QC215_230322			Interlab Duplicate	RN1388285	**0.29**	<0.01	**0.071**	<0.01	0.35	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.36**	0.72
MW2286	0939_MW2286_230130	30/01/2023	Q4	Primary	EM2302832	**0.4**	0.01	**0.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.7**	0.79
MW2325	0661_MW2325_230131	31/01/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2358	0939_MW2358_230130	31/01/2023	Q1	Primary	EM2302832	**50.2**	**2.89**	**71.1**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	12.7	3.59	<0.04	20.3	5.19	2.36	<0.04	<0.04	<0.04	9.55	1.3	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**121**	179
MW2394	0939_MW2394_230130	31/01/2023	Q1	Primary	EM2302832	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.08**	0.08
MW2411	0939_MW2411_230201	1/02/2023	Q1	Primary	EM2302832	**0.1**	<0.01	**0.46**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.06	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	0.26	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.56**	1.21
MW2490	0939_MW2490_230131	31/01/2023	Q1	Primary	EM2302832	**310**	**12.5**	**193**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	34	7.6	0.09	44.7	11	4.69	0.24	<0.04	<0.04	15	1.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.32	<0.04	**503**	635
MW2499	0939_MW2499_230201	1/02/2023	Q1	Primary	EM2302832	**1530**	**11.2**	**90.2**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	10.5	4.94	0.32	21.4	28.1	2.57	0.1	<0.03	0.05	7.41	1.3	<0.08	<0.08	<0.08	<0.08	<0.03	0.93	<0.03	**1620**	1710
MW2501	0939_MW2501_230131	31/01/2023	Q1	Primary	EM2302832	**0.16**	0.01	**0.08**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.24**	0.32
MW2528	0939_MW2528_230131	31/01/2023	Q1	Primary	EM2302832	**28.2**	**1.26**	**9.29**	<0.05	0.1	0.07	<0.05	<0.04	<0.04	<0.09	1.34	5.86	0.18	8.94	0.59	0.72	0.14	<0.04	0.07	2.79	5.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.14	<0.04	**37.5**	65.5
MW4001	0939_MW4001_230216	16/02/2023	Q1	Primary	EM2302832	**0.91**	0.04	**0.27**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.18**	1.32
MW4003	0939_MW4003_230201	1/02/2023	Q1	Primary	EM2302832	**8.85**	0.21	**3.48**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.42	0.09	<0.02	0.45	0.27	0.08	<0.02	<0.02	<0.02	0.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12.3**	14.2
	0939_QC105_230201			Intralab Duplicate	EM2302832	**9.08**	0.21	**3.54**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	0.09	<0.02	0.46	0.28	0.09	<0.02	<0.02	<0.02	0.31	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12.6**	14.5
	0939_QC205_230201			Interlab Duplicate	RN1384535	**8.2**	0.21	**3.9**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.42	0.094	<0.01	0.47	0.25	0.087	<0.01	<0.01	<0.01	0.3	0.091	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**12.10**	14.02
MW4009	0939_MW4009_230201	1/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4013	0939_MW4013_230216	16/02/2023	Q1	Primary	EM2302832	**3.08**	0.1	**1.86**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.09	<0.02	0.26	0.09	0.04	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**4.94**	5.85
	0939_QC111_230216			Intralab Duplicate	EM2302832	**3.43**	0.11	**1.8**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.08	<0.02	0.23	0.09	0.04	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.23**	6.06
	0939_QC211_230216			Interlab Duplicate	RN1384535	**4**	0.1	**2.5**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.17	0.087	<0.01	0.26	0.069	0.044	<0.01	<0.01	<0.01	0.13	0.11	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**6.50**	7.47
MW4015	0939_MW4015_220215	15/02/2023	Q1	Primary	EM2302832	**5.13**	0.1	**3.04**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.3	0.05	<0.02	0.25	0.16	0.04	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**8.17**	9.31
MW4020_	0939_MW4020__230201	1/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_230221	15/02/2023	Q2	Primary	EM2303629	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_230201	1/02/2023	Q2	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4023	0939_MW4023_230216	16/02/2023	Q1	Primary	EM2302832	**0.59**	0.03	**0.72**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.11	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.31**	1.6
	0939_QC109_230216			Intralab Duplicate	EM2302832	**0.55**	0.03	**0.76**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.11	0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.31**	1.61
	0939_QC209_230216			Interlab Duplicate	RN1384535	**0.51**	0.024	**0.78**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.059	<0.02	<0.01	0.11	0.042	0.012	<0.01	<0.01	<0.01	0.036	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.29**	1.57
MW4024	0939_MW4024_230216	16/02/2023	Q2	Primary	EM2302832	**0.47**	0.02	**0.54**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.01**	1.23
MW4027	0939_MW4027_230215	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4035	0939_MW4035_230216	16/02/2023	Q2	Primary	EM2302832	**5.79**	0.11	**2.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.22	0.05	<0.02	0.24	0.19	0.04	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**7.95**	9.03
MW4037	0939_MW4037_230216	16/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4041	0939_MW4041_230216	16/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC110_230216			Intralab Duplicate	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC210_230216			Interlab Duplicate	RN1384535	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.02	<0.05

Table T2: Groundwater Analytical Results

						Per- and Poly-fluoroalkyl Substances																																			
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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	µg/L	µg/L	µg/L	µg/L
LOR						0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	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	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.07**	**0.56**	**0.07**																														**0.07**	
Location Code	**Field ID**	**Sampled Date**	**Aquifer**	**Sample Type**	**Lab Report Number**																																		
MW4045	0939_MW4045_230215	15/02/2023	Q2	Primary	EM2302832	**0.2**	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.26**	0.26
	0939_QC108_230215			Intralab Duplicate	EM2302832	**0.2**	<0.01	**0.07**	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.27**	0.27
	0939_QC208_230215			Interlab Duplicate	RN1384535	**0.22**	<0.01	**0.076**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.30**	0.30
MW4048	0939_MW4048_230216	16/02/2023	Q2	Primary	EM2302832	**0.51**	0.03	**0.28**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.79**	0.95
MW4052	0939_MW4052_230115	16/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4053	0939_MW4053_230215	15/02/2023	Q1	Primary	EM2302832	**0.91**	0.03	**0.4**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.31**	1.51
	0939_QC113_230216			Intralab Duplicate	EM2302832	**0.93**	0.02	**0.38**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.31**	1.46
	0939_QC213_230216			Interlab Duplicate	RN1384535	**0.96**	0.027	**0.42**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.051	<0.02	<0.01	0.025	0.02	<0.01	<0.01	<0.01	<0.01	0.046	0.056	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.38**	1.61
MW4055	0939_MW4055_230216	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4057	0939_MW4057_230215	15/02/2023	Q1	Primary	EM2302832	**0.18**	0.04	**0.19**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.37**	0.54
MW4058	0939_MW4058_230215	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_230215	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_230215	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_230101	1/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_230215	15/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_230201	1/02/2023	Q2	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4066	0939_MW4066_230215	15/02/2023	Q2	Primary	EM2302832	0.04	0.01	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.19**	0.29
MW4068	0939_MW4068_220215	15/02/2023	Q3	Primary	EM2302832	**5.65**	0.12	**2.18**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.06	<0.02	0.27	0.18	0.05	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**7.83**	8.96
MW4069	0939_MW4069_230216	16/02/2023	Q3	Primary	EM2302832	**0.99**	0.03	**0.48**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.06	0.03	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.47**	1.69
MW4070	0939_MW4070_230215	16/02/2023	Q3	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4071	0939_MW4071_230215	15/02/2023	Q3	Primary	EM2302832	0.02	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_230201	1/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4073	0939_MW4073_230215	15/02/2023	Q3	Primary	EM2302832	**0.07**	0.03	**0.21**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.28**	0.4
MW4074	0939_MW4074_230216	16/02/2023	Q3	Primary	EM2302832	**0.15**	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.15**	0.15
MW4075	0939_MW4075_230216	16/02/2023	Q4	Primary	EM2302832	**0.53**	0.22	**5.1**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.03	0.24	<0.02	1.21	0.1	0.19	<0.02	<0.02	<0.02	0.81	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.63**	9.43
MW4076	0939_MW4076_230215	15/02/2023	Q2	Primary	EM2302832	0.03	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW4077	0939_MW4077_230221	15/02/2023	Q2	Primary	EM2303629	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_230215	15/02/2023	Q4	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4079	0939_MW4079_230215	15/02/2023	Q4	Primary	EM2302832	0.02	0.02	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.14**	0.25
MW4218	0939_MW4218_230201	1/02/2023	Q1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4219	0939_MW4219_230201	1/02/2023	Q1	Primary	EM2302832	**0.17**	<0.01	**0.19**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.36**	0.42
MW4220	0939_MW4220_230201	1/02/2023	T1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_230216	16/02/2023	T1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_230216	16/02/2023	T1	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_230203	3/02/2023	Q2	Primary	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Notes:

Denotes new maximum value for Sum of PFHxS+PFOS or PFOA

Denotes new exceedence of human health screening criteria

LOR: Limit of reporting

µg/L: micrograms per Litre

Table T3: Surface Water Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV	
SW003	2/02/2023	Dry						
SW006	2/02/2023	6.98	402	261	2.73	19.2	26.2	No odour, Dark Brown, No sheen, Medium turbidity
SW009	2/02/2023	7.18	388	252	2.32	17.6	80.1	No odour, Dark Olive Grey, No sheen, Low turbidity
SW010	2/02/2023	8.04	507	330	6.16	17.9	80.1	No odour, Dark Olive Brown, No sheen, Turbid
SW011	2/02/2023	Dry						
SW012	2/02/2023	7.80	651	423	6.05	18.1	33.4	No odour, Light Olive Brown, No sheen, Low turbidity
SW017	2/02/2023	7.07	357	232	4.97	19.4	36.8	No odour, Light Olive Brown, No sheen, Medium turbidity
SW018	2/02/2023	7.12	347	225	4.54	19.0	38.1	No odour, Light Olive Brown, No sheen, Medium turbidity
SW019	2/02/2023	Dry						
SW021	2/02/2023	7.07	300	195	5.13	19.2	33	No odour, Light Olive Brown, No sheen, Medium turbidity
SW028	2/02/2023	6.97	527	343	1.31	18.8	13.6	No odour, Light Olive Brown, No sheen, Low turbidity
SW029	2/02/2023	6.84	980	637	1.17	18.1	148.1	No odour, Light Olive Brown, No sheen, Medium turbidity
SW032	2/02/2023	7.24	319	207	2.20	17.9	63.3	No odour, Dark Olive Grey, No sheen, Low
SW033	2/02/2023	Dry						
SW037	2/02/2023	Dry						
SW050	2/02/2023	7.66	528	343	5.23	18.3	32	No odour, Light Olive Brown, No sheen, Low turbidity
SW054	2/02/2023	7.25	639	415	5.12	17.5	-2.9	No odour, Clear, No sheen, Low turbidity
SW058	2/02/2023	8.01	529	344	4.81	19.4	70.3	No odour, Dark Olive Brown, No sheen, Turbid
SW059	2/02/2023	6.99	273	178	2.58	17.9	-51.4	No odour, Dark Olive Grey, No sheen, Medium turbidity
SW062	2/02/2023	6.84	1686	1096	3.47	17.8	-102.3	No odour, Light Olive Brown, No sheen, Low turbidity
SW078	2/02/2023	7.14	1575	1024	3.10	18.9	-246.5	Septic odour, Clear, No sheen, Low turbidity

Notes:
°C: Degrees Celsius
mg/L: Milligrams per litre (ppm w/v)
mV: Millivolts
µS/cm: Micro Siemens per centimetre
EC: Electrical Conductivity
* Approximate value determined using the following equation: TDS (mg/L) = EC x 0.65

Table T4: Surface Water Analytical Results

					Per- and Poly-fluoroalkyl Substances																															
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	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	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Freshwater 95%					**220**	**0.13**																													
PFAS NEMP 2020 Recreational Water					*10*	*2*	*2*																											*2*	
Location Code	**Field ID**	**Sampled Date**	**Sample Type**	**Lab Report Number**																															
SW006	0939_SW006_230202	2/02/2023	Primary	EM2303626	0.01	**0.17**	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.2	0.21
SW009	0939_SW009_230202	2/02/2023	Primary	EM2303626	<0.01	0.04	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
SW010	0939_SW010_230202	2/02/2023	Primary	EM2303626	0.02	**0.18**	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.26	0.32
SW012	0939_SW012_230202	2/02/2023	Primary	EM2303626	0.02	**0.26**	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.47	0.57
SW017	0939_SW017_230202	2/02/2023	Primary	EM2303626	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
SW018	0939_SW018_230202	2/02/2023	Primary	EM2303626	<0.01	0.08	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
	0939_QC107_230202		Intralab Duplicate	EM2303626	<0.01	0.07	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
	0939_QC207_230202		Interlab Duplicate	RN1384535	<0.01	0.082	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.08	0.09
SW021	0939_SW021_230202	2/02/2023	Primary	EM2303626	0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.06
SW028	0939_SW028_230202	2/02/2023	Primary	EM2303626	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC106_230202		Intralab Duplicate	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC206_230202		Interlab Duplicate	RN1384535	<0.01	0.026	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.05	0.05
SW029	0939_SW029_230202	2/02/2023	Primary	EM2303626	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW032	0939_SW032_230202	2/02/2023	Primary	EM2303626	<0.01	0.03	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
SW050	0939_SW050_230202	2/02/2023	Primary	EM2303626	0.02	**0.19**	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.31	0.36
SW054	0939_SW054_230202	2/02/2023	Primary	EM2303626	0.02	**0.16**	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.29	0.37
SW058	0939_SW058_230202	2/02/2023	Primary	EM2303626	0.02	**0.16**	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.24	0.3
SW059	0939_SW059_230202	2/02/2023	Primary	EM2303626	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
SW062	0939_SW062_230202	2/02/2023	Primary	EM2303626	0.02	0.12	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.28	0.38
SW078	0939_SW078_230202	2/02/2023	Primary	EM2303626	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Notes:

Denotes new maximum value for Sum of PFHxS+PFOS or PFOA

Denotes first time detection above LOR for Sum of PFHxS+PFOS or PFOA

Denotes new exceedance of ecological screening criteria

LOR: Limit of reporting

µg/L: micrograms per Litre

Appendix C

Data Validation Reports

AECOM Imagine it. Delivered.

DATA VALIDATION REPORT; GROUNDWATER

Project Manager: James Guzman
Validation by: [redacted]
Project number: 60612561
Date: 14/03/2023
Site: RAAF Edinburgh
Matrix: Water
Data Verified by:
Laboratory: ALS; NMI
Date: 12/04/2023
Lab reference: EM2302832, EM2303626, EM2303629, EM2303877, EM2305133, RN1385681, RN1388285

Key Findings:

The groundwater analytical data can be used as a basis for interpretation, subject to the limitations outlined below:

- Elevated RPDs should be taken into consideration when using data for sum of PFAS, PFBA, PFDS and FOSA quantitatively.
- Elevated RPDs should be taken into consideration when interpreting data for PFHxS+PFOS where close to guidelines.
- The potential exists for concentrations of PFBA and 10:2 FTS to be biased low, this potential for under reporting should be taken into consideration when using results quantitatively.

Component		Outliers			Material impact on interpretation
		No	Yes	Comment	
Frequency of field quality assurance/quality control (QAQC)			✓	1	No
Number of tests requested/reported		✓			
Sample handling/preservation/holding times			✓	2	No
Frequency of laboratory QA/QC			✓	3	No
Limits of reporting (LOR)		✓			
Blank analysis	Field blank		✓	4	No
	Rinsate blank		✓	5	No
	Trip blank	✓			
	Method blank	✓			
Field intra-laboratory relative percent differences (RPDs)			✓	6	No
Field inter-laboratory RPDs			✓	7	No
Laboratory duplicate RPDs		✓			
Matrix spike (MS) % recoveries			✓	8	No
Laboratory control spike (LCS) % recoveries		✓			
Surrogate % recoveries		✓			
Other observations		✓	✓	9	No

Comments	
1. Frequency of field QA/QC	Field intra- and inter-laboratory duplicate samples were not collected at a frequency of one in 10 primary samples for groundwater. The precision of the data can be assessed as acceptable based on the frequency of field intra- and inter-laboratory duplicate samples collected for the entire event for the water matrix (groundwater and surface water samples).
2. Sample handling/ preservation/ holding times	**Handling/preservation** Primary, duplicate and triplicate samples were received, preserved, and chilled at the laboratory. The following sample receipt temperatures were reported for:

Batch Number	Temperature (°C)
EM2302832	17.95
EM2303629	17.95
EM2303877	17.95
EM2303626	17.95
EM2305133	5.5
RN1385681	chilled
RN1388285	chilled

Sample receipt temperatures were outside of the recommended range (≤6°C) in all primary batches. As the samples were received generally below ambient groundwater temperature at the time of sampling (~21 °C) and immediately cooled upon collection, the potential for under reporting is not considered to materially affect the interpretation of results.

3. Frequency of Laboratory QA/QC	Laboratory duplicate samples were not reported at the required frequencies for PFAS in batches EM2302832, EM2303626, EM2303629 and EM2303877. The precision of the data can be assessed as acceptable based on intra- and inter-laboratory duplicate RPDs which were reported generally within control limits. Matrix spikes were not reported at the required frequencies for PFAS method group in batches EM2302832, EM2303626, EM2303629 and EM2303877. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits).
4. Field blank	Field blank samples were collected at the required frequency however, a field blank sample was not collected on 2 March 2023, as only one sample was collected that day using dedicated equipment, therefore there is no potential for cross contamination on that particular day of sampling.

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Comments	
5. Rinsate blank	Rinsate blank samples were collected at the required frequency (one per day), with the exception of 2 March 2023, as only one sample was collected that day using dedicated equipment, therefore there is no potential for cross contamination on that particular day of sampling. Furthermore, the decontamination methods are assessed as acceptable and the potential for cross contamination via sampling methods is considered unlikely based on the following: • All sampling equipment was either dedicated, disposable or decontaminated with a solution of water and Liquinox between sampling locations • Clean disposable gloves were used to collect each sample • The decontamination methods and field staff were consistent over the course of the sampling event • Concentrations of all analytes were reported below the LOR in the rinsate samples analysed • Numerous samples from surface water and groundwater reported all PFAS concentrations below the laboratory LOR
6. Field intra-laboratory duplicate RPDs	Field duplicate RPDs were reported within control limits with the exception the following in lab batch EM2302832 (the sample with the higher concentration is in bold): • **0939_MW2135_230131** and 0939_QC104_230131 for PFHxS+PFOS (169%) and sum of PFAS (169%) As there are no adopted guideline values for sum of PFAS the elevated RPD will not affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. This apparent lack of precision should be taken into consideration when interpreting concentrations for PFHxS+PFOS close to guidelines.
7. Field inter-laboratory duplicate RPDs	Field duplicate RPDs were reported within control limits with the exception of PFBA, PFDS, FOSA, PFHxS+PFOS and sum of PFAS as shown in the RPD table and outlined below (the sample with the higher concentration is in bold). <u>RN1385681</u> • **0939_MW2203_230130** and 0939_QC202_230130 for PFBA (117%) • **0939_MW2130_230131** and 0939_QC203_230131 for PFDS (162%) and FOSA (47%) • 0939_MW2130_230131 and **0939_QC203_230131** for PFBA (116%) • **0939_MW2135_230131** and 0939_QC204_230131 for PFHxS+PFOS (64%) and sum of PFAS (64%) • **0939_MW2285_230322** and 0939_QC215_230322 for sum of PFAS (30%) <u>RN1388285</u> • **0939_MW2285_230322** and 0939_QC215_230322 for sum of PFAS (30%) As there are no adopted guideline values for PFBA, PFDS, FOSA and sum of PFAS the elevated RPD will not affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. This apparent lack of precision should be taken into consideration when interpreting concentrations for PFHxS+PFOS close to guidelines.

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Comments

8. MS % recoveries

Matrix spike recoveries were not determined in laboratory batch EM2302832 for PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFPeA, PFHxA and PFHpA as background levels were greater than or equal to 4x spike levels.
These non-determinations do not reflect method bias and do not affect data interpretation. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were generally reported within control limits).

Matrix spike recoveries (where reported) were within control limits, with the following exceptions:

EM2303877

Analyte	Recovery (%)	Range (%)	Comment
PFBA	59.4	73-129	Recovery less than lower data quality objective

The potential exists for PFBA to be bias low by up to 40.6%. As there is no adopted guideline value for PFBA the potential for under reporting is not considered to affect interpretation of the results against guidelines. However, this potential for under reporting should be taken into consideration when using the data quantitatively.

EM2302832

Analyte	Recovery (%)	Range (%)	Comment
PFBA	67.3	73-129	Recovery less than lower data quality objective
10:2 FTS	56	70-130	Recovery less than lower data quality objective

The potential exists for PFBA to be bias low by up to 32.7% and for 10:2 FTS to be bias low by up to 44%. As there are no adopted guideline values for PFBA and 10:2 FTS, the potential for under reporting is not considered to affect interpretation of the results against guidelines. However, this potential for under reporting should be taken into consideration when using the data quantitatively.

ALS noted poor matrix spike recovery for samples 0939_MW2183_23013 and 0939_MW2131_23013 due to sample matrix interference.

9. Other comments

General Comments
ALS laboratory noted the following

EM2302832

- EP231X: Samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.

EM2303877

- EP231X: Sample 0939_MW2189_23030 required dilution due to matrix interferences. LOR values have been adjusted accordingly.

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QAQC Blank Sample Analysis

Lab Report Number			EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2305133
Field ID			0939_QC301_230130	0939_QC302_230131	0939_QC303_230201	0939_QC304_230202	0939_QC305_230203	0939_QC306_230215	0939_QC307_230216	0939_QC308_230322
Sampled Date			31/01/2023	31/01/2023	1/02/2023	3/02/2023	3/02/2023	15/02/2023	16/02/2023	22/03/2023
Sample Type			Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank
Reporting Group	**Analyte**	**Units**	**LOR**								
Per- and Poly-fluoroalkyl Substances	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	0.05	<0.05	<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	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<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 (MeFOSA	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA	µg/L	0.02	<0.02	<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	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

QAQC Blank Sample Analysis

Lab Report Number			EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2302832	EM2305133
Field ID			0939_QC401_230130	0939_QC402_230131	0939_QC403_230201	0939_QC404_230202	0939_QC405_230203	0939_QC407_230216	0939_QC406_230215	0939_QC408_230322
Sampled Date			30/01/2023	31/01/2023	1/02/2023	3/02/2023	3/02/2023	16/02/2023	15/02/2023	22/03/2023
Sample Type			Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Reporting Group	**Analyte**	**Units**	**LOR**							
Per- and Poly-fluoroalkyl Substances	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	0.05	<0.05	<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	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<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 (MeFOSA	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA	µg/L	0.02	<0.02	<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	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

QAQC Blank Sample Analysis

Lab Report Number			EM2302832	EM2302832	EM2302832	EM2302832	EM2305133	
Field ID			0939_QC501_230202	0939_QC502_230202	0939_QC503_230216	0939_QC504_230216	0939_QC505_230322	
Sampled Date			2/02/2023	2/02/2023	16/02/2023	16/02/2023	22/03/2023	
Sample Type			Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	
Reporting Group	**Analyte**	**Units**	**LOR**					
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	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
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	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
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	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
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	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
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSA	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA	µg/L	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
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Relative Percentage Difference Table

	Lab Report Number	EM2302832	EM2302832		EM2302832	RN1384535		EM2302832	EM2302832		EM2302832	RN1384535	
	Field ID	0939_MW2177_230130	0939_QC101_230130	RPD	0939_MW2177_230130	0939_QC201_230130	RPD	0939_MW2203_230130	0939_QC102_230130	RPD	0939_MW2203_230130	0939_QC202_230130	RPD
	Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
	Sampled Date	30/01/23	30/01/23		30/01/23	30/01/23		30/01/23	30/01/23		30/01/23	30/01/23	
Reporting Group	**Analyte**	**Units**	**LOR**										
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.11	0.1	10	0.11	0.1	10	58.5	58.9	1	58.5	55	6
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	4.22	3.74	12	4.22	3.4	22	3750	3440	9	3750	4100	9
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	2.3	2.2	4	2.3	2.2	4	797	728	9	797	930	15
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.39	<0.37	0	<0.39	0.42	7
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.39	<0.37	0	<0.39	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.97	<0.93	0	<0.97	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.12	0.11	9	0.12	0.14	15	111	112	1	111	90	21
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.05	0.05	0	0.05	0.057	13	35.3	34.6	2	35.3	38	7
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.52	0.63	19	0.52	0.4	26
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.38	0.38	0	0.38	0.42	10	193	187	3	193	180	7
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.19	0.19	0	0.19	0.17	11	62.3	58.3	7	62.3	50	22
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.04	0	0.04	0.039	3	25.2	25.5	1	25.2	23	9
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	0.059	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.08	0.08	0	0.08	0.092	14	71.5	70.4	2	71.5	77	7
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	0.056	0	6.3	6.2	2	**6.3**	**24**	**117**
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.97	<0.93	0	<0.97	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.97	<0.93	0	<0.97	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.97	<0.93	0	<0.97	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.97	<0.93	0	<0.97	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	0.097	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.39	<0.37	0	<0.39	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	6.52	5.94	9	6.52	5.6	15	4550	4170	9	4550	5030	10
	Sum of PFAS	µg/L	0.01	7.49	6.89	8	7.49	6.67	12	5110	4720	8	5110	5567.98	9

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

Relative Percentage Difference Table

			Lab Report Number	EM2302832	EM2302832		EM2302832	RN1384535		EM2302832	EM2302832		EM2302832	RN1384535	
			Field ID	0939_MW2130_230131	0939_QC103_230131	**RPD**	0939_MW2130_230131	0939_QC203_230131	**RPD**	0939_MW2135_230131	0939_QC104_230131	**RPD**	0939_MW2135_230131	0939_QC204_230131	**RPD**
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	31/01/23	31/01/23		31/01/23	31/01/23		31/01/23	31/01/23		31/01/23	31/01/23	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	9.32	9.24	1	9.32	11	17	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	225	212	6	225	240	6	0.07	<0.01	150	0.07	0.062	12
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	46.4	47.4	2	46.4	62	29	0.05	<0.01	133	0.05	<0.01	133
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.34	0.32	6	0.34	0.39	14	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.18	0.21	15	0.18	0.2	11	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.04	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.04	<0.04	0	<0.04	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.09	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	7.99	7.92	1	7.99	8.6	7	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	5.96	5.96	0	5.96	7.9	28	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.3	0.32	6	0.3	0.31	3	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	32.1	31.5	2	32.1	33	3	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	4.76	4.75	0	4.76	5.4	13	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	4.89	5.06	3	4.89	5.9	19	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	1.13	1.12	1	**1.13**	**0.12**	**162**	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.04	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	0.12	0.13	8	0.12	0.15	22	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	6.77	6.84	1	6.77	8.7	25	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	1.8	1.8	0	**1.8**	**6.8**	**116**	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.09	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.09	<0.09	0	<0.09	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.09	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.09	<0.09	0	<0.09	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.04	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	0.34	0.37	8	**0.34**	**0.21**	**47**	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.04	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	271	259	5	271	302	11	**0.12**	**<0.01**	**169**	**0.12**	**0.062**	**64**
	Sum of PFAS	µg/L	0.01	347	335	4	347	390.68	12	**0.12**	**<0.01**	**169**	**0.12**	**0.062**	**64**

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

Relative Percentage Difference Table

Lab Report Number			EM2302832	EM2302832		EM2302832	RN1384535		EM2303626	EM2302832		EM2303626	RN1384535		
Field ID			0939_MW4003_230201	0939_QC105_230201	**RPD**	0939_MW4003_230201	0939_QC205_230201	**RPD**	0939_SW028_230202	0939_QC106_230202	**RPD**	0939_SW028_230202	0939_QC206_230202	**RPD**	
Sample Type			Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate		
Sampled Date			1/02/23	1/02/23		1/02/23	1/02/23		2/02/23	2/02/23		2/02/23	2/02/23		
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.21	0.21	0	0.21	0.21	0	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	8.85	9.08	3	8.85	8.2	8	<0.01	<0.01	0	<0.01	0.026	89
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	3.48	3.54	2	3.48	3.9	11	<0.01	<0.01	0	<0.01	0.019	62
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.42	0.43	2	0.42	0.42	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.09	0.09	0	0.09	0.094	4	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.45	0.46	2	0.45	0.47	4	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.27	0.28	4	0.27	0.25	8	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.08	0.09	12	0.08	0.087	8	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.3	0.31	3	0.3	0.3	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	0.091	0	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	12.3	12.6	2	12.3	12.1	2	<0.01	<0.01	0	<0.01	0.05	133
	Sum of PFAS	µg/L	0.01	14.2	14.5	2	14.2	14.02	1	<0.01	<0.01	0	<0.01	0.05	133

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

Relative Percentage Difference Table

	Lab Report Number	EM2303626	EM2303626			EM2303626	RN1384535			EM2302832	EM2302832			EM2302832	RN1384535	
	Field ID	0939_SW018_230202	0939_QC107_230202	**RPD**		0939_SW018_230202	0939_QC207_230202	**RPD**		0939_MW4045_230215	0939_QC108_230215	**RPD**		0939_MW4045_230215	0939_QC208_230215	**RPD**
	Sample Type	Primary	Intralab Duplicate			Primary	Interlab Duplicate			Primary	Intralab Duplicate			Primary	Interlab Duplicate	
	Sampled Date	2/02/23	2/02/23			2/02/23	2/02/23			17/02/23	17/02/23			17/02/23	17/02/23	
Reporting Group	**Analyte**	**Units**	**LOR**													
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.08	0.07	13	0.08	0.082	2	0.2	0.2	0	0.2	0.22	10
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	0.06	0.07	15	0.06	0.076	24
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	0.011	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.08	0.07	13	0.08	0.08	0	0.26	0.27	4	0.26	0.30	14
	Sum of PFAS	µg/L	0.01	0.08	0.07	13	0.08	0.09	12	0.26	0.27	4	0.26	0.30	14

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

Relative Percentage Difference Table

			Lab Report Number	EM2302832	EM2302832		EM2302832	RN1384535		EM2302832	EM2302832		EM2302832	RN1384535	
			Field ID	0939_MW4023_230216	0939_QC109_230216	**RPD**	0939_MW4023_230216	0939_QC209_230216	**RPD**	0939_MW4041_230216	0939_QC110_230216	**RPD**	0939_MW4041_230216	0939_QC210_230216	**RPD**
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	16/02/23	16/02/23		16/02/23	16/02/23		16/02/23	16/02/23		16/02/23	16/02/23	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.03	0.03	0	0.03	0.024	22	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.59	0.55	7	0.59	0.51	15	<0.01	<0.01	0	<0.01	<0.02	0
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.72	0.76	5	0.72	0.78	8	<0.01	<0.01	0	<0.01	<0.01	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.05	0.07	33	0.05	0.059	17	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.11	0.11	0	0.11	0.11	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.06	0.05	18	0.06	0.042	35	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	0.012	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.04	0	0.04	0.036	11	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	1.31	1.31	0	1.31	1.29	2	<0.01	<0.01	0	<0.01	<0.02	67
	Sum of PFAS	µg/L	0.01	1.6	1.61	1	1.6	1.57	2	<0.01	<0.01	0	<0.01	<0.05	133

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

Relative Percentage Difference Table

	Lab Report Number	EM2302832	EM2302832		EM2302832	RN1384535		EM2302832	EM2302832		EM2302832	RN1384535	
	Field ID	0939_MW4013_230216	0939_QC111_230216	RPD	0939_MW4013_230216	0939_QC211_230216	RPD	0939_MW4053_230215	0939_QC113_230216	RPD	0939_MW4053_230215	0939_QC213_230216	RPD
	Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
	Sampled Date	16/02/23	16/02/23		16/02/23	16/02/23		15/02/23	15/02/23		15/02/23	15/02/23	
Reporting Group	**Analyte**	**Units**	**LOR**										
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.1	0.11	10	0.1	0.1	0	0.03	0.02	40	0.03	0.027	11
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	3.08	3.43	11	3.08	4	26	0.91	0.93	2	0.91	0.96	5
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	1.86	1.8	3	1.86	2.5	29	0.4	0.38	5	0.4	0.42	5
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.18	0.16	12	0.18	0.17	6	0.06	0.05	18	0.06	0.051	16
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.09	0.08	12	0.09	0.087	3	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.26	0.23	12	0.26	0.26	0	0.03	0.02	40	0.03	0.025	18
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.09	0.09	0	0.09	0.069	26	0.03	0.02	40	0.03	0.02	40
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.04	0	0.04	0.044	10	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.15	0.12	22	0.15	0.13	14	0.05	0.04	22	0.05	0.046	8
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	0.11	10	<0.1	<0.1	0	<0.1	0.056	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	4.94	5.23	6	4.94	6.50	27	1.31	1.31	0	1.31	1.38	5
	Sum of PFAS	µg/L	0.01	5.85	6.06	4	5.85	7.47	24	1.51	1.46	3	1.51	1.61	6

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

Relative Percentage Difference Table

	Lab Report Number	EM2305133	EM2305133			EM2305133	RN1388285		
	Field ID	0939_MW2285_230322	0939_QC115_230322	**RPD**		0939_MW2285_230322	0939_QC215_230322	**RPD**	
	Sample Type	Primary	Intralab Duplicate			Primary	Interlab Duplicate		
	Sampled Date	22/03/23	22/03/23			22/03/23	22/03/23		
Reporting Group	**Analyte**	**Units**	**LOR**						
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.22	0.23	4	0.22	0.29	27
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.06	0.06	0	0.06	0.071	17
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.25	0.25	0	**0.25**	**0.35**	**33**
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.28	0.29	4	0.28	0.36	25
	Sum of PFAS	µg/L	0.01	0.53	0.54	2	**0.53**	**0.72**	**30**

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

CHAIN OF CUSTODY

COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: Heath ALS 15:50 21/02/23	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0939_MW2285_230130		30/01/2023 10:31 AM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0939_MW2185_220130		30/01/2023 09:24 AM	WATER	ALS: 2 Non ALS: 0	No		X		
003	0939_MW2281_230130		30/01/2023 09:28 AM	WATER	ALS: 2 Non ALS: 0	No		X		
004	0939_MW2286_230130		30/01/2023 09:45 AM	WATER	ALS: 2 Non ALS: 0	No		X		
005	0939_MW2184_230130		30/01/2023 09:55 AM	WATER	ALS: 2 Non ALS: 0	No		X		
006	0939_MW2183_230130		30/01/2023 10:05 AM	WATER	ALS: 4 Non ALS: 0	No		X		
007	0939_MW2182_230130		30/01/2023 10:11 AM	WATER	ALS: 2 Non ALS: 0	No		X		
008	0939_MW2275_230130		30/01/2023 10:32 AM	WATER	ALS: 2 Non ALS: 0	No		X		
009	0939_MW2180_230130		30/01/2023 10:39 AM	WATER	ALS: 2 Non ALS: 0	No		X		

Environmental Division
Melbourne
Work Order Reference
EM2302832

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	H.C DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0939_MW2177_230130		30/01/2023 10:50 AM	WATER	ALS: 2 Non ALS: 0	No		X		
011	0939_QC101_230130		30/01/2023 10:58 AM	WATER	ALS: 2 Non ALS: 0	No		X		
012	0939_QC201_230130	Forward to secondary lab	30/01/2023 10:58 AM	WATER	ALS: 2 Non ALS: 0	Yes	-			
013	0939_MW2175_230130		30/01/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No		X		
014	0939_MW2176_230130		30/01/2023 11:17 AM	WATER	ALS: 2 Non ALS: 0	No		X		
015	0939_MW2173_230130		30/01/2023 11:29 AM	WATER	ALS: 2 Non ALS: 0	No		X		
016	0939_MW2172_230130		30/01/2023 11:30 AM	WATER	ALS: 2 Non ALS: 0	No		X		
017	0939_MW2145_230130		30/01/2023 11:59 AM	WATER	ALS: 2 Non ALS: 0	No		X		
018	0939_MW2129_230130		30/01/2023 12:00 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0939_MW2169_230130		30/01/2023 12:11 PM	WATER	ALS: 2 Non ALS: 0	No		X		
020	0939_MW2139_230130		30/01/2023 12:16 PM	WATER	ALS: 4 Non ALS: 0	No		X		
021	0939_MW2166_230130		30/01/2023 12:32 PM	WATER	ALS: 2 Non ALS: 0	No		X		
022	0939_MW2270_220725		30/01/2023 01:36 PM	WATER	ALS: 2 Non ALS: 0	No		X		
023	0939_MW2200_230130		30/01/2023 01:37 PM	WATER	ALS: 2 Non ALS: 0	No		X		
024	0939_MW2120_230130		30/01/2023 01:38 PM	WATER	ALS: 2 Non ALS: 0	No		X		
025	0939_MW2201_230130		30/01/2023 02:01 PM	WATER	ALS: 2 Non ALS: 0	No		X		
026	0939_MW2202_230130		30/01/2023 02:02 PM	WATER	ALS: 2 Non ALS: 0	No		X		
027	0939_MW2203_230130		30/01/2023 03:26 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0939_QC102_230130		30/01/2023 03:28 PM	WATER	ALS: 2 Non ALS: 0	No		X		
029	0939_QC202_230130	Forward to secondary	30/01/2023 03:28 PM	WATER	ALS: 2 Non ALS: 0	Yes	-			
030	0939_MW2197_230123		30/01/2023 03:41 PM	WATER	ALS: 4 Non ALS: 0	No		X		
031	0939_MW2193_230123		30/01/2023 03:52 PM	WATER	ALS: 2 Non ALS: 0	No		X		
032	0939_MW2194_230130		30/01/2023 04:12 PM	WATER	ALS: 2 Non ALS: 0	No		X		
033	0939_MW2188_230130		30/01/2023 04:54 PM	WATER	ALS: 2 Non ALS: 0	No		X		
034	0939_MW2358_230130		31/01/2023 08:49 AM	WATER	ALS: 2 Non ALS: 0	No		X		
035	0939_MW2126_230130		31/01/2023 08:49 AM	WATER	ALS: 2 Non ALS: 0	No		X		
036	0939_MW2150_230130		31/01/2023 08:51 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0939_MW2394_230130		31/01/2023 08:52 AM	WATER	ALS: 2 Non ALS: 0	No		X		
038	0939_MW2112_230130		31/01/2023 08:53 AM	WATER	ALS: 2 Non ALS: 0	No		X		
039	0939_MW2162_230130		31/01/2023 08:54 AM	WATER	ALS: 2 Non ALS: 0	No		X		
040	0939_MW2149_230130		31/01/2023 08:55 AM	WATER	ALS: 2 Non ALS: 0	No		X		
041	0939_MW2490_230131		31/01/2023 09:17 AM	WATER	ALS: 4 Non ALS: 0	No		X		
042	0939_MW2130_230131		31/01/2023 09:29 AM	WATER	ALS: 2 Non ALS: 0	No		X		
043	0939_QC103_230131		31/01/2023 09:30 AM	WATER	ALS: 2 Non ALS: 0	No		X		
044	0939_QC203_230131	Forward to secondary Lab	31/01/2023 09:31 AM	WATER	ALS: 2 Non ALS: 0	Yes	-			
045	0939_MW2209_230131		31/01/2023 09:48 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0939_MW2528_230131		31/01/2023 09:54 AM	WATER	ALS: 2 Non ALS: 0	No		X		
047	0939_MW2157_230131		31/01/2023 10:03 AM	WATER	ALS: 2 Non ALS: 0	No		X		
048	0939_MW2114_230131		31/01/2023 10:11 AM	WATER	ALS: 2 Non ALS: 0	No		X		
049	0939_MW2131_230131		31/01/2023 10:19 AM	WATER	ALS: 4 Non ALS: 0	No		X		
050	0939_MW2210_230131		31/01/2023 10:29 AM	WATER	ALS: 2 Non ALS: 0	No		X		
051	0939_MW2148_230131		31/01/2023 11:56 AM	WATER	ALS: 2 Non ALS: 0	No		X		
052	0939_MW2284_230131		31/01/2023 11:57 AM	WATER	ALS: 2 Non ALS: 0	No		X		
053	0939_MW2158_230131		31/01/2023 11:57 AM	WATER	ALS: 2 Non ALS: 0	No		X		
054	0939_MW2271_230131		31/01/2023 11:58 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H:C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0939_MW2218_230131		31/01/2023 11:59 AM	WATER	ALS: 2 Non ALS: 0	No		X		
056	0939_MW2134_230131		31/01/2023 12:03 PM	WATER	ALS: 2 Non ALS: 0	No		X		
057	0939_MW2501_230131		31/01/2023 01:14 PM	WATER	ALS: 2 Non ALS: 0	No		X		
058	0861_MW2325_230131		31/01/2023 01:29 PM	WATER	ALS: 2 Non ALS: 0	No		X		
059	0939_MW2116_230131		31/01/2023 01:54 PM	WATER	ALS: 2 Non ALS: 0	No		X		
060	0939_MW2216_230131		31/01/2023 02:22 PM	WATER	ALS: 2 Non ALS: 0	No		X		
061	0939_MW2135_230131		31/01/2023 02:34 PM	WATER	ALS: 2 Non ALS: 0	No		X		
062	0939_QC104_230131		31/01/2023 02:35 PM	WATER	ALS: 2 Non ALS: 0	No		X		
063	0939_QC204_230131		31/01/2023 02:35 PM	WATER	ALS: 2 Non ALS: 0	Yes	-			

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0939_MW2159_230131		31/01/2023 03:20 PM	WATER	ALS: 2 Non ALS: 0	No		X		
065	0939_QC301_230130		31/01/2023 03:24 PM	WATER	ALS: 2 Non ALS: 0	No		X		
066	0939_QC401_230130		30/01/2023 07:25 PM	WATER	ALS: 2 Non ALS: 0	No		X		
067	0939_QC302_230131		31/01/2023 03:26 PM	WATER	ALS: 2 Non ALS: 0	No		X		
068	0939_QC402_230131		31/01/2023 03:27 PM	WATER	ALS: 2 Non ALS: 0	No		X		
069	0939_MW4218_230201		01/02/2023 11:34 AM	WATER	ALS: 2 Non ALS: 0	No		X		
070	0939_MW4061_230101		01/02/2023 12:03 PM	WATER	ALS: 2 Non ALS: 0	No		X		
071	0939_MW4065_230201		01/02/2023 12:09 PM	WATER	ALS: 4 Non ALS: 0	No		X		
072	0939_MW2499_230201		01/02/2023 01:55 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H·C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0939_MW4020__230201		01/02/2023 01:56 PM	WATER	ALS: 2 Non ALS: 0	No		X		
074	0939_MW4022_230201		01/02/2023 01:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
075	0939_MW4099_230201		01/02/2023 02:05 PM	WATER	ALS: 2 Non ALS: 0	No		X		
076	0939_MW4072_230201		01/02/2023 02:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
077	0939_MW4220_230201		01/02/2023 03:25 PM	WATER	ALS: 2 Non ALS: 0	No		X		
078	0939_MW4003_230201		01/02/2023 03:44 PM	WATER	ALS: 2 Non ALS: 0	No		X		
079	0939_QC105_230201		01/02/2023 03:44 PM	WATER	ALS: 2 Non ALS: 0	No		X		
080	0939_QC205_230201	Please forward to secondary lab	01/02/2023 03:46 PM	WATER	ALS: 2 Non ALS: 0	Yes	-			
081	0939_MW4219_230201		01/02/2023 04:07 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMA0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0939_QC303_230201		01/02/2023 05:05 PM	WATER	ALS: 2 Non ALS: 0	No		X		
083	0939_QC403_230201		01/02/2023 05:05 PM	WATER	ALS: 2 Non ALS: 0	No		X		
084	0939_MW2411_230201		01/02/2023 05:22 PM	WATER	ALS: 2 Non ALS: 0	No		X		
085	0939_QC106_230202		02/02/2023 08:24 AM	WATER	ALS: 2 Non ALS: 0	No		X		
086	0939_QC206_230202		02/02/2023 08:25 AM	WATER	ALS: 2 Non ALS: 0	Yes				
087	0939_MW4223_230203		03/02/2023 09:40 AM	WATER	ALS: 2 Non ALS: 0	No		X		
088	0939_QC304_230202		03/02/2023 11:22 AM	WATER	ALS: 2 Non ALS: 0	No		X		
089	0939_QC404_230202		03/02/2023 11:22 AM	WATER	ALS: 2 Non ALS: 0	No		X		
090	0939_QC305_230203		03/02/2023 11:23 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER [redacted]
PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0939_QC405_230203		03/02/2023 11:24 AM	WATER	ALS: 2 Non ALS: 0	No		X		
092	0939_MW4078_230215		15/02/2023 08:35 AM	WATER	ALS: 2 Non ALS: 0	No		X		
093	0939_MW4058_230215		15/02/2023 08:35 AM	WATER	ALS: 2 Non ALS: 0	No		X		
094	0939_MW4079_230215		15/02/2023 09:12 AM	WATER	ALS: 2 Non ALS: 0	No		X		
095	0939_MW4066_230215		15/02/2023 09:13 AM	WATER	ALS: 2 Non ALS: 0	No		X		
096	0939_MW4057_230215		15/02/2023 09:14 AM	WATER	ALS: 2 Non ALS: 0	No		X		
097	0939_MW4073_230215		15/02/2023 09:14 AM	WATER	ALS: 2 Non ALS: 0	No		X		
098	0939_MW4068_220215		15/02/2023 10:51 AM	WATER	ALS: 2 Non ALS: 0	No		X		
099	0939_MW4015_220215		15/02/2023 11:03 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0939_MW4060_230215		15/02/2023 11:29 AM	WATER	ALS: 4 Non ALS: 0	No		X		
101	0939_MW4071_230215		15/02/2023 11:42 AM	WATER	ALS: 2 Non ALS: 0	No		X		
102	0939_MW4027_230215		15/02/2023 12:35 PM	WATER	ALS: 2 Non ALS: 0	No		X		
103	0939_MW4059_230215		15/02/2023 01:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
104	0939_MW4076_230215		15/02/2023 01:58 PM	WATER	ALS: 2 Non ALS: 0	No		X		
105	0939_MW4064_230215		15/02/2023 02:18 PM	WATER	ALS: 2 Non ALS: 0	No		X		
106	0939_SW012_230202		02/02/2023 11:52 AM	WATER	ALS: 2 Non ALS: 0	No		X		
107	0939_SW006_230202		02/02/2023 12:11 PM	WATER	ALS: 2 Non ALS: 0	No		X		
108	0939_SW009_230202		02/02/2023 09:00 AM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

ALS COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
109	0939_SW010_230202		02/02/2023 09:22 AM	WATER	ALS: 2 Non ALS: 0	No		X		
110	0939_SW018_230202		02/02/2023 12:21 PM	WATER	ALS: 2 Non ALS: 0	No		X		
111	0939_SW054_230202		02/02/2023 10:37 AM	WATER	ALS: 2 Non ALS: 0	No		X		
112	0939_SW017_230202		02/02/2023 12:27 PM	WATER	ALS: 2 Non ALS: 0	No		X		
113	0939_MW4075_230216		16/02/2023 08:49 AM	WATER	ALS: 2 Non ALS: 0	No		X		
114	0939_SW021_230202		02/02/2023 12:42 PM	WATER	ALS: 2 Non ALS: 0	No		X		
115	0939_SW028_230202		02/02/2023 08:24 AM	WATER	ALS: 2 Non ALS: 0	No		X		
116	0939_SW029_230202		02/02/2023 08:08 AM	WATER	ALS: 2 Non ALS: 0	No		X		
117	0939_SW032_230202		02/02/2023 08:40 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) *COC#:* 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0005 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
118	0939_SW050_230202		02/02/2023 11:44 AM	WATER	ALS: 2 Non ALS: 0	No		X		
119	0939_QC207_230202		02/02/2023 12:23 PM	WATER	ALS: 2 Non ALS: 0	No		X		
120	0939_SW058_230202		02/02/2023 09:19 AM	WATER	ALS: 2 Non ALS: 0	No		X		
121	0939_SW059_230202		02/02/2023 10:24 AM	WATER	ALS: 2 Non ALS: 0	No		X		
122	0939_SW062_230202		02/02/2023 10:09 AM	WATER	ALS: 2 Non ALS: 0	No		X		
123	0939_SW078_230202	Forward to secondary lab	02/02/2023 09:44 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
124	0939_QC107_230202		02/02/2023 12:22 PM	WATER	ALS: 2 Non ALS: 0	No		X		
125	0939_MW4221_230216		16/02/2023 08:51 AM	WATER	ALS: 2 Non ALS: 0	No		X		
126	0939_MW4222_230216		16/02/2023 08:52 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
127	0939_MW4055_230216		15/02/2023 08:55 AM	WATER	ALS: 2 Non ALS: 0	No		X		
128	0939_MW4053_230215		15/02/2023 08:56 AM	WATER	ALS: 2 Non ALS: 0	No		X		
129	0939_QC208_230115		15/02/2023 08:59 AM	WATER	ALS: 2 Non ALS: 0	No		X		
130	0939_QC108_230215		16/02/2023 09:00 AM	WATER	ALS: 2 Non ALS: 0	No		X		
131	0939_MW4052_230115		16/02/2023 09:01 AM	WATER	ALS: 2 Non ALS: 0	No		X		
132	0939_MW4069_230216		16/02/2023 09:04 AM	WATER	ALS: 2 Non ALS: 0	No		X		
133	0939_MW4048_230216		16/02/2023 09:15 AM	WATER	ALS: 2 Non ALS: 0	No		X		
134	0939_MW4001_230216		16/02/2023 09:21 AM	WATER	ALS: 2 Non ALS: 0	No		X		
135	0939_MW4024_230216		16/02/2023 11:16 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H+C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
136	0939_MW4023_230216		16/02/2023 11:19 AM	WATER	ALS: 2 Non ALS: 0	No		X		
137	0939_QC109_230216		16/02/2023 11:20 AM	WATER	ALS: 2 Non ALS: 0	No		X		
138	0939_QC209_230216	Forward to secondary lab	16/02/2023 11:21 AM	WATER	ALS: 2 Non ALS: 0	Yes	-			
139	0939_MW4070_230215		16/02/2023 11:23 AM	WATER	ALS: 2 Non ALS: 0	No		X		
140	0939_MW4035_230216		16/02/2023 12:51 PM	WATER	ALS: 2 Non ALS: 0	No		X		
141	0939_MW4074_230216		16/02/2023 01:55 PM	WATER	ALS: 2 Non ALS: 0	No		X		
142	0939_MW4041_230216		16/02/2023 02:23 PM	WATER	ALS: 2 Non ALS: 0	No		X		
143	0939_QC110_230216		16/02/2023 02:24 PM	WATER	ALS: 2 Non ALS: 0	No		X		
144	0939_QC210_230216	Forward to secondary lab	16/02/2023 02:25 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H·C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
145	0939_MW4037_230216		16/02/2023 03:10 PM	WATER	ALS: 2 Non ALS: 0	No		X		
146	0939_MW4013_230216		16/02/2023 03:24 PM	WATER	ALS: 4 Non ALS: 0	No		X		
147	0939_QC111_230216		16/02/2023 03:26 PM	WATER	ALS: 2 Non ALS: 0	No		X		
148	0939_QC211_230216	Forward to secondary lab	16/02/2023 03:27 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		
149	0939_QC407_230216		16/02/2023 11:05 AM	WATER	ALS: 2 Non ALS: 0	No		X		
150	0939_SW078_230216		17/02/2023 11:06 AM	WATER	ALS: 2 Non ALS: 0	No		X		
151	0939_QC113_230216		16/02/2023 11:07 AM	WATER	ALS: 2 Non ALS: 0	No		X		
152	0939_QC212_230216	Forward to secondary lab	16/02/2023 11:08 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
153	0939_QC213_230216	Forward to secondary lab	16/02/2023 11:09 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
154	0939_QC112_230216		16/02/2023 11:09 AM	WATER	ALS: 2 Non ALS: 0	No		X		
155	0939_QC406_230215		15/02/2023 11:17 AM	WATER	ALS: 2 Non ALS: 0	No		X		
156	0939_QC306_230215		15/02/2023 11:17 AM	WATER	ALS: 2 Non ALS: 0	No		X		
157	0939_QC307_230216		16/02/2023 11:18 AM	WATER	ALS: 2 Non ALS: 0	No		X		
158	0939_MW4045_230215		17/02/2023 11:20 AM	WATER	ALS: 2 Non ALS: 0	No		X		
159	0939_QC501_230202		02/02/2023 11:07 AM	WATER	ALS: 2 Non ALS: 0	No		X		
160	0939_QC502_230202		02/02/2023 11:11 AM	WATER	ALS: 2 Non ALS: 0	No		X		
161	0939_QC503_230216		16/02/2023 11:12 AM	WATER	ALS: 2 Non ALS: 0	No		X		
162	0939_QC504_230216		16/02/2023 11:13 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: HC	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

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]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0939_MW2285_230130	HDPE (no PTFE)	20 mL	00350621019567	Grey	No	
001	0939_MW2285_230130	HDPE (no PTFE)	20 mL	00350621019261	Grey	No	
001	0939_MW2285_230130	HDPE (no PTFE)	20 mL	00350621019583	Grey	No	
001	0939_MW2285_230130	HDPE (no PTFE)	20 mL	00350621019579	Grey	No	
002	0939_MW2185_220130	HDPE (no PTFE)	20 mL	00350621019318	Grey	No	
002	0939_MW2185_220130	HDPE (no PTFE)	20 mL	00350621019340	Grey	No	
003	0939_MW2281_230130	HDPE (no PTFE)	20 mL	00350621019518	Grey	No	
003	0939_MW2281_230130	HDPE (no PTFE)	20 mL	00350621019858	Grey	No	
004	0939_MW2286_230130	HDPE (no PTFE)	20 mL	00350621019524	Grey	No	
004	0939_MW2286_230130	HDPE (no PTFE)	20 mL	00350621019623	Grey	No	
005	0939_MW2184_230130	HDPE (no PTFE)	20 mL	00350522016803	Grey	No	
005	0939_MW2184_230130	HDPE (no PTFE)	20 mL	00350522019064	Grey	No	
006	0939_MW2183_230130	HDPE (no PTFE)	20 mL	00350621019607	Grey	No	
006	0939_MW2183_230130	HDPE (no PTFE)	20 mL	00350621019664	Grey	No	
006	0939_MW2183_230130	HDPE (no PTFE)	20 mL	00350621019363	Grey	No	
006	0939_MW2183_230130	HDPE (no PTFE)	20 mL	00350621019570	Grey	No	
007	0939_MW2182_230130	HDPE (no PTFE)	20 mL	00350621019423	Grey	No	
007	0939_MW2182_230130	HDPE (no PTFE)	20 mL	00350621019459	Grey	No	
008	0939_MW2275_230130	HDPE (no PTFE)	20 mL	00350621019597	Grey	No	
008	0939_MW2275_230130	HDPE (no PTFE)	20 mL	00350621019748	Grey	No	
009	0939_MW2180_230130	HDPE (no PTFE)	20 mL	00350621019711	Grey	No	
009	0939_MW2180_230130	HDPE (no PTFE)	20 mL	00350621019582	Grey	No	
010	0939_MW2177_230130	HDPE (no PTFE)	20 mL	00350621019633	Grey	No	
010	0939_MW2177_230130	HDPE (no PTFE)	20 mL	00350621019345	Grey	No	
011	0939_QC101_230130	HDPE (no PTFE)	20 mL	00350621019600	Grey	No	
011	0939_QC101_230130	HDPE (no PTFE)	20 mL	00350621019336	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

012	0939_QC201_230130	HDPE (no PTFE)	20 mL	00350621019554	Grey	No	
012	0939_QC201_230130	HDPE (no PTFE)	20 mL	00350621019634	Grey	No	
013	0939_MW2175_230130	HDPE (no PTFE)	20 mL	00350621019569	Grey	No	
013	0939_MW2175_230130	HDPE (no PTFE)	20 mL	00350621019515	Grey	No	
013	0939_MW2175_230130	HDPE (no PTFE)	20 mL	00350621019341	Grey	No	
013	0939_MW2175_230130	HDPE (no PTFE)	20 mL	00350621019646	Grey	No	
014	0939_MW2176_230130	HDPE (no PTFE)	20 mL	00350621019498	Grey	No	
014	0939_MW2176_230130	HDPE (no PTFE)	20 mL	00350621019532	Grey	No	
015	0939_MW2173_230130	HDPE (no PTFE)	20 mL	00350621019512	Grey	No	
015	0939_MW2173_230130	HDPE (no PTFE)	20 mL	00350621019273	Grey	No	
016	0939_MW2172_230130	HDPE (no PTFE)	20 mL	00350621019289	Grey	No	
016	0939_MW2172_230130	HDPE (no PTFE)	20 mL	00350621019335	Grey	No	
017	0939_MW2145_230130	HDPE (no PTFE)	20 mL	00350621019356	Grey	No	
017	0939_MW2145_230130	HDPE (no PTFE)	20 mL	00350621019510	Grey	No	
018	0939_MW2129_230130	HDPE (no PTFE)	20 mL	00350621019631	Grey	No	
018	0939_MW2129_230130	HDPE (no PTFE)	20 mL	00350621019495	Grey	No	
019	0939_MW2169_230130	HDPE (no PTFE)	20 mL	00350621019534	Grey	No	
019	0939_MW2169_230130	HDPE (no PTFE)	20 mL	00350621019688	Grey	No	
020	0939_MW2139_230130	HDPE (no PTFE)	20 mL	00350621019643	Grey	No	
020	0939_MW2139_230130	HDPE (no PTFE)	20 mL	00350621019563	Grey	No	
020	0939_MW2139_230130	HDPE (no PTFE)	20 mL	00350621019662	Grey	No	
020	0939_MW2139_230130	HDPE (no PTFE)	20 mL	00350621019506	Grey	No	
021	0939_MW2166_230130	HDPE (no PTFE)	20 mL	00350621019374	Grey	No	
021	0939_MW2166_230130	HDPE (no PTFE)	20 mL	00350621019303	Grey	No	
022	0939_MW2270_220725	HDPE (no PTFE)	20 mL	00350621019576	Grey	No	
022	0939_MW2270_220725	HDPE (no PTFE)	20 mL	00350621019669	Grey	No	
023	0939_MW2200_230130	HDPE (no PTFE)	20 mL	00350621019452	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 7.1.C	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:

023	0939_MW2200_230130	HDPE (no PTFE)	20 mL	00350621019554	Grey	No	
024	0939_MW2120_230130	HDPE (no PTFE)	20 mL	00350621019522	Grey	No	
024	0939_MW2120_230130	HDPE (no PTFE)	20 mL	00350621019394	Grey	No	
025	0939_MW2201_230130	HDPE (no PTFE)	20 mL	00350621019701	Grey	No	
025	0939_MW2201_230130	HDPE (no PTFE)	20 mL	00350621019519	Grey	No	
026	0939_MW2202_230130	HDPE (no PTFE)	20 mL	00350621019436	Grey	No	
026	0939_MW2202_230130	HDPE (no PTFE)	20 mL	00350621019605	Grey	No	
027	0939_MW2203_230130	HDPE (no PTFE)	20 mL	00350621019571	Grey	No	
027	0939_MW2203_230130	HDPE (no PTFE)	20 mL	00350621019618	Grey	No	
028	0939_QC102_230130	HDPE (no PTFE)	20 mL	00350621019697	Grey	No	
028	0939_QC102_230130	HDPE (no PTFE)	20 mL	00350621019281	Grey	No	
029	0939_QC202_230130	HDPE (no PTFE)	20 mL	00350621019525	Grey	No	
029	0939_QC202_230130	HDPE (no PTFE)	20 mL	00350621019469	Grey	No	
030	0939_MW2197_230123	HDPE (no PTFE)	20 mL	00350621019408	Grey	No	
030	0939_MW2197_230123	HDPE (no PTFE)	20 mL	00350621019556	Grey	No	
030	0939_MW2197_230123	HDPE (no PTFE)	20 mL	00350621019316	Grey	No	
030	0939_MW2197_230123	HDPE (no PTFE)	20 mL	00350621019708	Grey	No	
031	0939_MW2193_230123	HDPE (no PTFE)	20 mL	00350621019476	Grey	No	
031	0939_MW2193_230123	HDPE (no PTFE)	20 mL	00350621019477	Grey	No	
032	0939_MW2194_230130	HDPE (no PTFE)	20 mL	00350621019391	Grey	No	
032	0939_MW2194_230130	HDPE (no PTFE)	20 mL	00350621019595	Grey	No	
033	0939_MW2188_230130	HDPE (no PTFE)	20 mL	00350621019398	Grey	No	
033	0939_MW2188_230130	HDPE (no PTFE)	20 mL	00350621019523	Grey	No	
034	0939_MW2358_230130	HDPE (no PTFE)	20 mL	00350621019714	Grey	No	
034	0939_MW2358_230130	HDPE (no PTFE)	20 mL	00350621019548	Grey	No	
035	0939_MW2126_230130	HDPE (no PTFE)	20 mL	00350621019734	Grey	No	
035	0939_MW2126_230130	HDPE (no PTFE)	20 mL	00350621019646	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

036	0939_MW2150_230130	HDPE (no PTFE)	20 mL	00350621019307	Grey	No	
036	0939_MW2150_230130	HDPE (no PTFE)	20 mL	00350621019301	Grey	No	
037	0939_MW2394_230130	HDPE (no PTFE)	20 mL	00350621019340	Grey	No	
037	0939_MW2394_230130	HDPE (no PTFE)	20 mL	00350621019649	Grey	No	
038	0939_MW2112_230130	HDPE (no PTFE)	20 mL	00350621019760	Grey	No	
038	0939_MW2112_230130	HDPE (no PTFE)	20 mL	00350621019765	Grey	No	
039	0939_MW2162_230130	HDPE (no PTFE)	20 mL	00350621019557	Grey	No	
039	0939_MW2162_230130	HDPE (no PTFE)	20 mL	00350621019482	Grey	No	
040	0939_MW2149_230130	HDPE (no PTFE)	20 mL	00350621019447	Grey	No	
040	0939_MW2149_230130	HDPE (no PTFE)	20 mL	00350621019676	Grey	No	
041	0939_MW2490_230131	HDPE (no PTFE)	20 mL	00350522018842	Grey	No	
041	0939_MW2490_230131	HDPE (no PTFE)	20 mL	00350621010466	Grey	No	
041	0939_MW2490_230131	HDPE (no PTFE)	20 mL	00350621019437	Grey	No	
041	0939_MW2490_230131	HDPE (no PTFE)	20 mL	00350621019333	Grey	No	
042	0939_MW2130_230131	HDPE (no PTFE)	20 mL	00350621019805	Grey	No	
042	0939_MW2130_230131	HDPE (no PTFE)	20 mL	00350621019700	Grey	No	
043	0939_QC103_230131	HDPE (no PTFE)	20 mL	00350621019816	Grey	No	
043	0939_QC103_230131	HDPE (no PTFE)	20 mL	00350621019754	Grey	No	
044	0939_QC203_230131	HDPE (no PTFE)	20 mL	00350621019790	Grey	No	
044	0939_QC203_230131	HDPE (no PTFE)	20 mL	00350621019624	Grey	No	
045	0939_MW2209_230131	HDPE (no PTFE)	20 mL	00350621019480	Grey	No	
045	0939_MW2209_230131	HDPE (no PTFE)	20 mL	00350621019832	Grey	No	
046	0939_MW2528_230131	HDPE (no PTFE)	20 mL	00350621019626	Grey	No	
046	0939_MW2528_230131	HDPE (no PTFE)	20 mL	00350621019295	Grey	No	
047	0939_MW2157_230131	HDPE (no PTFE)	20 mL	00350621019431	Grey	No	
047	0939_MW2157_230131	HDPE (no PTFE)	20 mL	00350621019547	Grey	No	
048	0939_MW2114_230131	HDPE (no PTFE)	20 mL	00350621019544	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:			

048	0939_MW2114_230131	HDPE (no PTFE)	20 mL	00350621019627	Grey	No	
049	0939_MW2131_230131	HDPE (no PTFE)	20 mL	00350621019794	Grey	No	
049	0939_MW2131_230131	HDPE (no PTFE)	20 mL	00350621019585	Grey	No	
049	0939_MW2131_230131	HDPE (no PTFE)	20 mL	00350621019770	Grey	No	
049	0939_MW2131_230131	HDPE (no PTFE)	20 mL	00350621019756	Grey	No	
050	0939_MW2210_230131	HDPE (no PTFE)	20 mL	00350621019773	Grey	No	
050	0939_MW2210_230131	HDPE (no PTFE)	20 mL	00350621019403	Grey	No	
051	0939_MW2148_230131	HDPE (no PTFE)	20 mL	00350621019746	Grey	No	
051	0939_MW2148_230131	HDPE (no PTFE)	20 mL	00350621019584	Grey	No	
052	0939_MW2284_230131	HDPE (no PTFE)	20 mL	00350621019730	Grey	No	
052	0939_MW2284_230131	HDPE (no PTFE)	20 mL	00350621019430	Grey	No	
053	0939_MW2158_230131	HDPE (no PTFE)	20 mL	00350621019367	Grey	No	
053	0939_MW2158_230131	HDPE (no PTFE)	20 mL	00350621019440	Grey	No	
054	0939_MW2271_230131	HDPE (no PTFE)	20 mL	00350621019716	Grey	No	
054	0939_MW2271_230131	HDPE (no PTFE)	20 mL	00350621019674	Grey	No	
055	0939_MW2218_230131	HDPE (no PTFE)	20 mL	00350621019279	Grey	No	
055	0939_MW2218_230131	HDPE (no PTFE)	20 mL	00350621019817	Grey	No	
056	0939_MW2134_230131	HDPE (no PTFE)	20 mL	00350621019686	Grey	No	
056	0939_MW2134_230131	HDPE (no PTFE)	20 mL	00350621019259	Grey	No	
057	0939_MW2501_230131	HDPE (no PTFE)	20 mL	00350621019343	Grey	No	
057	0939_MW2501_230131	HDPE (no PTFE)	20 mL	00350621019470	Grey	No	
058	0661_MW2325_230131	HDPE (no PTFE)	20 mL	00350621019494	Grey	No	
058	0661_MW2325_230131	HDPE (no PTFE)	20 mL	00350621019439	Grey	No	
059	0939_MW2116_230131	HDPE (no PTFE)	20 mL	00350621019549	Grey	No	
059	0939_MW2116_230131	HDPE (no PTFE)	20 mL	00350621019681	Grey	No	
060	0939_MW2216_230131	HDPE (no PTFE)	20 mL	00350621019835	Grey	No	
060	0939_MW2216_230131	HDPE (no PTFE)	20 mL	00350621019501	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 14-C	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:			

061	0939_MW2135_230131	HDPE (no PTFE)	20 mL	00350621019312	Grey	No	
061	0939_MW2135_230131	HDPE (no PTFE)	20 mL	00350621019264	Grey	No	
062	0939_QC104_230131	HDPE (no PTFE)	20 mL	00350621019530	Grey	No	
062	0939_QC104_230131	HDPE (no PTFE)	20 mL	00350621019288	Grey	No	
063	0939_QC204_230131	HDPE (no PTFE)	20 mL	00350621019364	Grey	No	
063	0939_QC204_230131	HDPE (no PTFE)	20 mL	00350621019767	Grey	No	
064	0939_MW2159_230131	HDPE (no PTFE)	20 mL	00350621019800	Grey	No	
064	0939_MW2159_230131	HDPE (no PTFE)	20 mL	00350621019692	Grey	No	
065	0939_QC301_230130	HDPE (no PTFE)	20 mL	00350621019277	Grey	No	
065	0939_QC301_230130	HDPE (no PTFE)	20 mL	00350621019821	Grey	No	
066	0939_QC401_230130	HDPE (no PTFE)	20 mL	00350621019533	Grey	No	
066	0939_QC401_230130	HDPE (no PTFE)	20 mL	00350621019446	Grey	No	
067	0939_QC302_230131	HDPE (no PTFE)	20 mL	00350522018823	Grey	No	
067	0939_QC302_230131	HDPE (no PTFE)	20 mL	00350522018830	Grey	No	
068	0939_QC402_230131	HDPE (no PTFE)	20 mL	00350621019738	Grey	No	
068	0939_QC402_230131	HDPE (no PTFE)	20 mL	00350621019442	Grey	No	
069	0939_MW4218_230201	HDPE (no PTFE)	20 mL	00350621019709	Grey	No	
069	0939_MW4218_230201	HDPE (no PTFE)	20 mL	00350621019650	Grey	No	
070	0939_MW4061_230101	HDPE (no PTFE)	20 mL	00350621019449	Grey	No	
070	0939_MW4061_230101	HDPE (no PTFE)	20 mL	00350621019654	Grey	No	
071	0939_MW4065_230201	HDPE (no PTFE)	20 mL	00350821010429	Grey	No	
071	0939_MW4065_230201	HDPE (no PTFE)	20 mL	00350522018967	Grey	No	
071	0939_MW4065_230201	HDPE (no PTFE)	20 mL	00350621019628	Grey	No	
071	0939_MW4065_230201	HDPE (no PTFE)	20 mL	00350621019338	Grey	No	
072	0939_MW2499_230201	HDPE (no PTFE)	20 mL	00350621019731	Grey	No	
072	0939_MW2499_230201	HDPE (no PTFE)	20 mL	00350621019772	Grey	No	
073	0939_MW4020__230201	HDPE (no PTFE)	20 mL	00350521019795	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	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:

073	0939_MW4020_230201	HDPE (no PTFE)	20 mL	00350621019484	Grey	No	
074	0939_MW4022_230201	HDPE (no PTFE)	20 mL	00350621019359	Grey	No	
074	0939_MW4022_230201	HDPE (no PTFE)	20 mL	00350621019323	Grey	No	
075	0939_MW4099_230201	HDPE (no PTFE)	20 mL	00350621019802	Grey	No	
075	0939_MW4099_230201	HDPE (no PTFE)	20 mL	00350621019812	Grey	No	
076	0939_MW4072_230201	HDPE (no PTFE)	20 mL	00350621019723	Grey	No	
076	0939_MW4072_230201	HDPE (no PTFE)	20 mL	00350621019743	Grey	No	
077	0939_MW4220_230201	HDPE (no PTFE)	20 mL	00350522018920	Grey	No	
077	0939_MW4220_230201	HDPE (no PTFE)	20 mL	00350522018917	Grey	No	
078	0939_MW4003_230201	HDPE (no PTFE)	20 mL	00350621019526	Grey	No	
078	0939_MW4003_230201	HDPE (no PTFE)	20 mL	00350621019516	Grey	No	
079	0939_QC105_230201	HDPE (no PTFE)	20 mL	00350621019634	Grey	No	
079	0939_QC105_230201	HDPE (no PTFE)	20 mL	00350621019625	Grey	No	
080	0939_QC205_230201	HDPE (no PTFE)	20 mL	00350621019392	Grey	No	
080	0939_QC205_230201	HDPE (no PTFE)	20 mL	00350821019293	Grey	No	
081	0939_MW4219_230201	HDPE (no PTFE)	20 mL	00350522019095	Grey	No	
081	0939_MW4219_230201	HDPE (no PTFE)	20 mL	00350522019053	Grey	No	
082	0939_QC303_230201	HDPE (no PTFE)	20 mL	00350621019416	Grey	No	
082	0939_QC303_230201	HDPE (no PTFE)	20 mL	00350621019653	Grey	No	
083	0939_QC403_230201	HDPE (no PTFE)	20 mL	00350522018903	Grey	No	
083	0939_QC403_230201	HDPE (no PTFE)	20 mL	00350522019178	Grey	No	
084	0939_MW2411_230201	HDPE (no PTFE)	20 mL	00350621019455	Grey	No	
084	0939_MW2411_230201	HDPE (no PTFE)	20 mL	00350621019256	Grey	No	
085	0939_QC106_230202	HDPE (no PTFE)	20 mL	00350522019185	Grey	No	
085	0939_QC106_230202	HDPE (no PTFE)	20 mL	00350522018939	Grey	No	
086	0939_QC206_230202	HDPE (no PTFE)	20 mL	00350621019576	Grey	No	
086	0939_QC206_230202	HDPE (no PTFE)	20 mL	00350621019702	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:

087	0939_MW4223_230203	HDPE (no PTFE)	20 mL	00350621019577	Grey	No	
087	0939_MW4223_230203	HDPE (no PTFE)	20 mL	00350621019601	Grey	No	
088	0939_QC304_230202	HDPE (no PTFE)	20 mL	00350621019694	Grey	No	
088	0939_QC304_230202	HDPE (no PTFE)	20 mL	00350621019667	Grey	No	
089	0939_QC404_230202	HDPE (no PTFE)	20 mL	00350621019618	Grey	No	
089	0939_QC404_230202	HDPE (no PTFE)	20 mL	00350621019322	Grey	No	
090	0939_QC305_230203	HDPE (no PTFE)	20 mL	00350621019505	Grey	No	
090	0939_QC305_230203	HDPE (no PTFE)	20 mL	00350621019537	Grey	No	
091	0939_QC405_230203	HDPE (no PTFE)	20 mL	00350621019276	Grey	No	
091	0939_QC405_230203	HDPE (no PTFE)	20 mL	00350621019791	Grey	No	
092	0939_MW4078_230215	HDPE (no PTFE)	20 mL	00350621019458	Grey	No	
092	0939_MW4078_230215	HDPE (no PTFE)	20 mL	00350621019872	Grey	No	
093	0939_MW4058_230215	HDPE (no PTFE)	20 mL	00350621019732	Grey	No	
093	0939_MW4058_230215	HDPE (no PTFE)	20 mL	00350621019492	Grey	No	
094	0939_MW4079_230215	HDPE (no PTFE)	20 mL	00350621019807	Grey	No	
094	0939_MW4079_230215	HDPE (no PTFE)	20 mL	00350621019553	Grey	No	
095	0939_MW4066_230215	HDPE (no PTFE)	20 mL	00350621019509	Grey	No	
095	0939_MW4066_230215	HDPE (no PTFE)	20 mL	00350621019583	Grey	No	
096	0939_MW4057_230215	HDPE (no PTFE)	20 mL	00350621019668	Grey	No	
096	0939_MW4057_230215	HDPE (no PTFE)	20 mL	00350621019810	Grey	No	
097	0939_MW4073_230215	HDPE (no PTFE)	20 mL	00350621019801	Grey	No	
097	0939_MW4073_230215	HDPE (no PTFE)	20 mL	00350621019592	Grey	No	
098	0939_MW4068_220215	HDPE (no PTFE)	20 mL	00350621019299	Grey	No	
098	0939_MW4068_220215	HDPE (no PTFE)	20 mL	00350621019507	Grey	No	
099	0939_MW4015_220215	HDPE (no PTFE)	20 mL	00350621019481	Grey	No	
099	0939_MW4015_220215	HDPE (no PTFE)	20 mL	00350621019405	Grey	No	
100	0939_MW4060_230215	HDPE (no PTFE)	20 mL	00350621019804	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:

100	0939_MW4060_230215	HDPE (no PTFE)	20 mL	00350621019425	Grey	No	
100	0939_MW4060_230215	HDPE (no PTFE)	20 mL	00350621019465	Grey	No	
100	0939_MW4060_230215	HDPE (no PTFE)	20 mL	00350621019777	Grey	No	
101	0939_MW4071_230215	HDPE (no PTFE)	20 mL	00350621019691	Grey	No	
101	0939_MW4071_230215	HDPE (no PTFE)	20 mL	00350621019483	Grey	No	
102	0939_MW4027_230215	HDPE (no PTFE)	20 mL	00350621019586	Grey	No	
102	0939_MW4027_230215	HDPE (no PTFE)	20 mL	00350621019729	Grey	No	
103	0939_MW4059_230215	HDPE (no PTFE)	20 mL	00350621019550	Grey	No	
103	0939_MW4059_230215	HDPE (no PTFE)	20 mL	00350621019756	Grey	No	
104	0939_MW4076_230215	HDPE (no PTFE)	20 mL	00350621019671	Grey	No	
104	0939_MW4076_230215	HDPE (no PTFE)	20 mL	00350621019527	Grey	No	
105	0939_MW4064_230215	HDPE (no PTFE)	20 mL	00350621019679	Grey	No	
105	0939_MW4064_230215	HDPE (no PTFE)	20 mL	00350621019486	Grey	No	
106	0939_SW012_230202	HDPE (no PTFE)	20 mL	00350621019286	Grey	No	
106	0939_SW012_230202	HDPE (no PTFE)	20 mL	00350621019520	Grey	No	
107	0939_SW006_230202	HDPE (no PTFE)	20 mL	00350522019126	Grey	No	
107	0939_SW006_230202	HDPE (no PTFE)	20 mL	00350522018818	Grey	No	
108	0939_SW009_230202	HDPE (no PTFE)	20 mL	00350522038401	Grey	No	
108	0939_SW009_230202	HDPE (no PTFE)	20 mL	00350522018948	Grey	No	
108	0939_SW009_230202	HDPE (no PTFE)	20 mL	00350621019675	Grey	No	
108	0939_SW009_230202	HDPE (no PTFE)	20 mL	00350621019262	Grey	No	
109	0939_SW010_230202	HDPE (no PTFE)	20 mL	00350621019396	Grey	No	
109	0939_SW010_230202	HDPE (no PTFE)	20 mL	00350621019413	Grey	No	
110	0939_SW018_230202	HDPE (no PTFE)	20 mL	00350621019610	Grey	No	
110	0939_SW018_230202	HDPE (no PTFE)	20 mL	00350621019567	Grey	No	
111	0939_SW054_230202	HDPE (no PTFE)	20 mL	00350621019360	Grey	No	
111	0939_SW054_230202	HDPE (no PTFE)	20 mL	00350621019354	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H-C	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:			

112	0939_SW017_230202	HDPE (no PTFE)	20 mL	00350621019348	Grey	No	
112	0939_SW017_230202	HDPE (no PTFE)	20 mL	00350621019390	Grey	No	
113	0939_MW4075_230216	HDPE (no PTFE)	20 mL	00350621019737	Grey	No	
113	0939_MW4075_230216	HDPE (no PTFE)	20 mL	00350621019803	Grey	No	
114	0939_SW021_230202	HDPE (no PTFE)	20 mL	00350621019710	Grey	No	
114	0939_SW021_230202	HDPE (no PTFE)	20 mL	00350621019819	Grey	No	
115	0939_SW028_230202	HDPE (no PTFE)	20 mL	00350522019179	Grey	No	
115	0939_SW028_230202	HDPE (no PTFE)	20 mL	00350522018940	Grey	No	
116	0939_SW029_230202	HDPE (no PTFE)	20 mL	00350522019196	Grey	No	
116	0939_SW029_230202	HDPE (no PTFE)	20 mL	00350522019143	Grey	No	
117	0939_SW032_230202	HDPE (no PTFE)	20 mL	00350621019464	Grey	No	
117	0939_SW032_230202	HDPE (no PTFE)	20 mL	00350621019798	Grey	No	
118	0939_SW050_230202	HDPE (no PTFE)	20 mL	00350621019596	Grey	No	
118	0939_SW050_230202	HDPE (no PTFE)	20 mL	00350621019839	Grey	No	
119	0939_QC207_230202	HDPE (no PTFE)	20 mL	00350621019475	Grey	No	
119	0939_QC207_230202	HDPE (no PTFE)	20 mL	00350621019393	Grey	No	
120	0939_SW058_230202	HDPE (no PTFE)	20 mL	00350621019541	Grey	No	
120	0939_SW058_230202	HDPE (no PTFE)	20 mL	00350621019347	Grey	No	
121	0939_SW059_230202	HDPE (no PTFE)	20 mL	00350621019630	Grey	No	
121	0939_SW059_230202	HDPE (no PTFE)	20 mL	00350621019639	Grey	No	
122	0939_SW062_230202	HDPE (no PTFE)	20 mL	00350621019346	Grey	No	
122	0939_SW062_230202	HDPE (no PTFE)	20 mL	00350621019830	Grey	No	
123	0939_SW078_230202	HDPE (no PTFE)	20 mL	00350621019662	Grey	No	
123	0939_SW078_230202	HDPE (no PTFE)	20 mL	00350621019775	Grey	No	
124	0939_QC107_230202	HDPE (no PTFE)	20 mL	00350621019637	Grey	No	
124	0939_QC107_230202	HDPE (no PTFE)	20 mL	00350621019715	Grey	No	
125	0939_MW4221_230216	HDPE (no PTFE)	20 mL	00350621019783	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: James Guzman CONTACT PH: SAMPLER MOBILE: [redacted]

PRIMARY SAMPLER: Nick Wheeler QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:

125	0939_MW4221_230216	HDPE (no PTFE)	20 mL	00350621019822	Grey	No	
126	0939_MW4222_230216	HDPE (no PTFE)	20 mL	00350621019774	Grey	No	
126	0939_MW4222_230216	HDPE (no PTFE)	20 mL	00350621019778	Grey	No	
127	0939_MW4055_230216	HDPE (no PTFE)	20 mL	00350621019776	Grey	No	
127	0939_MW4055_230216	HDPE (no PTFE)	20 mL	00350621019369	Grey	No	
128	0939_MW4053_230215	HDPE (no PTFE)	20 mL	00350621019432	Grey	No	
128	0939_MW4053_230215	HDPE (no PTFE)	20 mL	00350621019325	Grey	No	
129	0939_QC208_230115	HDPE (no PTFE)	20 mL	00350621019840	Grey	No	
129	0939_QC208_230115	HDPE (no PTFE)	20 mL	00350621019377	Grey	No	
130	0939_QC108_230215	HDPE (no PTFE)	20 mL	00350621019613	Grey	No	
130	0939_QC108_230215	HDPE (no PTFE)	20 mL	00350621019836	Grey	No	
131	0939_MW4052_230115	HDPE (no PTFE)	20 mL	00350621019407	Grey	No	
131	0939_MW4052_230115	HDPE (no PTFE)	20 mL	00350621019690	Grey	No	
132	0939_MW4069_230216	HDPE (no PTFE)	20 mL	00350621019457	Grey	No	
132	0939_MW4069_230216	HDPE (no PTFE)	20 mL	00350621019820	Grey	No	
133	0939_MW4048_230216	HDPE (no PTFE)	20 mL	00350621019797	Grey	No	
133	0939_MW4048_230216	HDPE (no PTFE)	20 mL	00350621019543	Grey	No	
134	0939_MW4001_230216	HDPE (no PTFE)	20 mL	00350621019297	Grey	No	
134	0939_MW4001_230216	HDPE (no PTFE)	20 mL	00350621019744	Grey	No	
135	0939_MW4024_230216	HDPE (no PTFE)	20 mL	00350621019478	Grey	No	
135	0939_MW4024_230216	HDPE (no PTFE)	20 mL	00350621019593	Grey	No	
136	0939_MW4023_230216	HDPE (no PTFE)	20 mL	00350621019827	Grey	No	
136	0939_MW4023_230216	HDPE (no PTFE)	20 mL	00350621019331	Grey	No	
137	0939_QC109_230216	HDPE (no PTFE)	20 mL	00350621019703	Grey	No	
137	0939_QC109_230216	HDPE (no PTFE)	20 mL	00350621019452	Grey	No	
138	0939_QC209_230216	HDPE (no PTFE)	20 mL	00350621019319	Grey	No	
138	0939_QC209_230216	HDPE (no PTFE)	20 mL	00350621019356	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 47609 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: H.C	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:

139	0939_MW4070_230215	HDPE (no PTFE)	20 mL	00350621019514	Grey	No	
139	0939_MW4070_230215	HDPE (no PTFE)	20 mL	00350621019314	Grey	No	
140	0939_MW4035_230216	HDPE (no PTFE)	20 mL	00350621019655	Grey	No	
140	0939_MW4035_230216	HDPE (no PTFE)	20 mL	00350621019728	Grey	No	
141	0939_MW4074_230216	HDPE (no PTFE)	20 mL	00350621019781	Grey	No	
141	0939_MW4074_230216	HDPE (no PTFE)	20 mL	00350621019575	Grey	No	
142	0939_MW4041_230216	HDPE (no PTFE)	20 mL	00350621019404	Grey	No	
142	0939_MW4041_230216	HDPE (no PTFE)	20 mL	00350621019502	Grey	No	
143	0939_QC110_230216	HDPE (no PTFE)	20 mL	00350621019863	Grey	No	
143	0939_QC110_230216	HDPE (no PTFE)	20 mL	00350621019304	Grey	No	
144	0939_QC210_230216	HDPE (no PTFE)	20 mL	00350621019757	Grey	No	
144	0939_QC210_230216	HDPE (no PTFE)	20 mL	00350621019766	Grey	No	
145	0939_MW4037_230216	HDPE (no PTFE)	20 mL	00350621019685	Grey	No	
145	0939_MW4037_230216	HDPE (no PTFE)	20 mL	00350621019344	Grey	No	
146	0939_MW4013_230216	HDPE (no PTFE)	20 mL	00350621019680	Grey	No	
146	0939_MW4013_230216	HDPE (no PTFE)	20 mL	00350621019677	Grey	No	
146	0939_MW4013_230216	HDPE (no PTFE)	20 mL	00350621019265	Grey	No	
146	0939_MW4013_230216	HDPE (no PTFE)	20 mL	00350621019473	Grey	No	
147	0939_QC111_230216	HDPE (no PTFE)	20 mL	00350621019606	Grey	No	
147	0939_QC111_230216	HDPE (no PTFE)	20 mL	00350621019594	Grey	No	
148	0939_QC211_230216	HDPE (no PTFE)	20 mL	00350621019622	Grey	No	
148	0939_QC211_230216	HDPE (no PTFE)	20 mL	00350621019758	Grey	No	
149	0939_QC407_230216	HDPE (no PTFE)	20 mL	00350621019309	Grey	No	
149	0939_QC407_230216	HDPE (no PTFE)	20 mL	00350621019717	Grey	No	
150	0939_SW078_230216	HDPE (no PTFE)	20 mL	00350621019636	Grey	No	
150	0939_SW078_230216	HDPE (no PTFE)	20 mL	00350621019558	Grey	No	
151	0939_QC113_230216	HDPE (no PTFE)	20 mL	00350621019565	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 47609 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0930_PFASOMP_23

SITE: 0939_EDN

ORDER NO: 60612561 - 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: HeC	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:

151	0939_QC113_230216	HDPE (no PTFE)	20 mL	00350621019574	Grey	No	
152	0939_QC212_230216	HDPE (no PTFE)	20 mL	00350621019562	Grey	No	
152	0939_QC212_230216	HDPE (no PTFE)	20 mL	00350621019669	Grey	No	
153	0939_QC213_230216	HDPE (no PTFE)	20 mL	00350621019659	Grey	No	
153	0939_QC213_230216	HDPE (no PTFE)	20 mL	00350621019608	Grey	No	
154	0939_QC112_230216	HDPE (no PTFE)	20 mL	00350621019287	Grey	No	
154	0939_QC112_230216	HDPE (no PTFE)	20 mL	00350621019704	Grey	No	
155	0939_QC406_230215	HDPE (no PTFE)	20 mL	00350621019724	Grey	No	
155	0939_QC406_230215	HDPE (no PTFE)	20 mL	00350621019619	Grey	No	
156	0939_QC306_230215	HDPE (no PTFE)	20 mL	00350621019705	Grey	No	
156	0939_QC306_230215	HDPE (no PTFE)	20 mL	00350621019255	Grey	No	
157	0939_QC307_230216	HDPE (no PTFE)	20 mL	00350621019750	Grey	No	
157	0939_QC307_230216	HDPE (no PTFE)	20 mL	00350621019837	Grey	No	
158	0939_MW4045_230215	HDPE (no PTFE)	20 mL	00350621019418	Grey	No	
158	0939_MW4045_230215	HDPE (no PTFE)	20 mL	00350621019263	Grey	No	
159	0939_QC501_230202	HDPE (no PTFE)	20 mL	00350621019327	Grey	No	
159	0939_QC501_230202	HDPE (no PTFE)	20 mL	00350621019641	Grey	No	
160	0939_QC502_230202	HDPE (no PTFE)	20 mL	00350621019468	Grey	No	
160	0939_QC502_230202	HDPE (no PTFE)	20 mL	00350621019275	Grey	No	
161	0939_QC503_230216	HDPE (no PTFE)	20 mL	00350621019474	Grey	No	
161	0939_QC503_230216	HDPE (no PTFE)	20 mL	00350621019742	Grey	No	
162	0939_QC504_230216	HDPE (no PTFE)	20 mL	00350621019883	Grey	No	
162	0939_QC504_230216	HDPE (no PTFE)	20 mL	00350621019402	Grey	No	

Total Bottle Count: ALS: 346, Non ALS: 0

AECOM PROJECT - CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT:	AECOM Australia Pty Ltd	LABORATORY:	NMI	All results to be provided in MRED format.
ADDRESS:	[redacted]	ADDRESS:	[redacted]	FOR LABORATORY USE ONLY
PHONE NO:		PHONE NO:		
FAX NO:		FAX NO:		
PROJECT NAME:		PROJECT MANAGE	[redacted]	
PROJECT NO:		SAMPLERS:	[redacted]	

COMMENTS: SPECIAL HANDLING/STORAGE

ANALYSIS REQUIRED

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID			Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS (28 Analytes)				hold
	EDN	EDN	Water	QC	QC201	_	230130	30/01/23	PFAS	-	2	1				
					QC202	_	230130	30/01/23	PFAS	-	2	1				
					QC203	_	230131	31/01/23	PFAS	-	2	1				
					QC204	_	230131	31/01/23	PFAS	-	2	1				
					QC205	_	230201	01/02/23	PFAS	-	2	1				
					QC206	_	230202	02/02/23	PFAS	-	2	1				
					QC207	_	230202	02/02/23	PFAS	-	2					1
					QC208	_	230215	15/02/23	PFAS	-	2	1				
					QC209	_	230216	16/02/23	PFAS	-	2	1				
					QC210	_	230216	16/02/23	PFAS	-	2	1				
					QC211	_	230216	16/02/23	PFAS	-	2	1				
					QC212	_	230216	16/02/23	PFAS	-	2	1				
					QC213	_	230216	16/02/23	PFAS	-	2	1				
						_										
						_										
											TOTAL	12	0	0	0	1

Custody Seal ?	Y N NA	RELINQUISHED BY:	CHECKED:
Samples Cold ?	Y N NA	DATE:	TIME:
Comments:		RECEIVED BY:	CHECKED:
		DATE:	TIME:

CONTAINER TYPE AND PRESERVATIVE CODES

P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar

S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;

Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

Ranil Weerakkody

From: [redacted]
Sent: Monday, 20 February 2023 2:13 PM
To: COC Melbourne
Subject: AECOMAU - COC #47609 - Incoming Samples 21/2
Attachments: dacce202-79ac-424a-b964-f26bb024c858.pdf; NMI_COC_EDN.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: COC for incoming samples

[redacted]

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[redacted]

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi there [redacted]

Sending 4 esksys your way. Should arrive today or tomorrow. I was using the ALS compass app (relatively new to using it). Unsure if it is possible to edit the COC when I've completed it.

- Can I please make the following changes. Please put the following samples on hold.
  - 0939_SW012_230202
  - 0939_SW006_230202
  - 0939_SW009_230202
  - 0939_SW010_230202
  - 0939_SW018_230202
  - 0939_SW054_230202
  - 0939_SW017_230202
  - 0939_SW021_230202
  - 0939_SW028_230202
  - 0939_SW029_230202
  - 0939_SW032_230202
  - 0939_SW050_230202
  - 0939_SW058_230202
  - 0939_SW059_230202
  - 0939_SW062_230202
  - 0939_SW078_230202
  - 0939_QC107_230202
- 0939_QC207_230202 forward to secondary lab.
- Forward all QC2XXX to NMI (COC attached)
- 0939_SW078_230202 on hold – please don't forward to secondary lab.

[redacted]

ALSCompass
SAMPLING *Intelligence*

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: 0939 - EDN **Client:** _____ **Project Manager:** [redacted]
Phone: [redacted]

ALS Compass COC Reference: 47609 **# Samples:** _____ **Sampler:** [redacted]
Phone: [redacted]

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:
Forward QC2xxx Samples to NMI

Custody:

Relinquished by:	Received by: Heath ALS	Relinquished by:	Received by:
Date / Time:	Date / Time: 15:50 21/02/23	Date / Time:	Date / Time:

Rebatch

Client / Client code: AECOMAU
Project: SA_0930_PFASOMP_23
Project Manger: [redacted]
Date /time sample rec: 21/02/ 4:10
Date/time Instructions rec: 1/03/2023 16:20
Due date: Wednesday, 8 March 2023
Due date surcharge: **STANDARD**

CS Contact: [redacted]
Additional Information:
Report receipients as per previous work order

Environmental Division
Melbourne
Work Order Reference
EM2303626

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis										Shortest Holding time expiry
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		PFAS -FULL SUITE										
1	0939_SW012_230202	2/02/2023 11:52	EM2302832	106	MPW: 93-95, 85-87	container	2	X										01-Aug-23
2	0939_SW006_230202	2/02/2023 12:11	EM2302832	107	MPW: 93-95, 85-87	container	2	X										01-Aug-23
3	0939_SW009_230202	2/02/2023 9:00	EM2302832	108	MPW: 93-95, 85-87	container	2	X										01-Aug-23
4	0939_SW010_230202	2/02/2023 9:22	EM2302832	109	MPW: 93-95, 85-87	container	2	X										01-Aug-23
5	0939_SW018_230202	2/02/2023 12:21	EM2302832	110	MPW: 93-95, 85-87	container	2	X										01-Aug-23
6	0939_SW054_230202	2/02/2023 10:37	EM2302832	111	MPW: 93-95, 85-87	container	2	X										01-Aug-23
7	0939_SW017_230202	2/02/2023 12:27	EM2302832	112	MPW: 93-95, 85-87	container	2	X										01-Aug-23
8	0939_SW021_230202	2/02/2023 12:42	EM2302832	114	MPW: 93-95, 85-87	container	2	X										01-Aug-23
9	0939_SW028_230202	2/02/2023 8:24	EM2302832	115	MPW: 93-95, 85-87	container	2	X										01-Aug-23
10	0939_SW029_230202	2/02/2023 8:08	EM2302832	116	MPW: 93-95, 85-87	container	2	X										01-Aug-23
11	0939_SW032_230202	2/02/2023 8:40	EM2302832	117	MPW: 93-95, 85-87	container	2	X										01-Aug-23
12	0939_SW050_230202	2/02/2023 11:44	EM2302832	118	MPW: 93-95, 85-87	container	2	X										01-Aug-23
13	0939_SW058_230202	2/02/2023 9:19	EM2302832	120	MPW: 93-95, 85-87	container	2	X										01-Aug-23
14	0939_SW059_230202	2/02/2023 10:24	EM2302832	121	MPW: 93-95, 85-87	container	2	X										01-Aug-23
15	0939_SW062_230202	2/02/2023 10:09	EM2302832	122	MPW: 93-95, 85-87	container	2	X										01-Aug-23
16	0939_SW078_230202	2/02/2023 9:44	EM2302832	123	MPW: 93-95, 85-87	container	2	X										01-Aug-23
17	0939_QC107_230202	2/02/2023 12:22	EM2302832	124	MPW: 93-95, 85-87	container	2	X										01-Aug-23
18	0939_SW078_230216	17/02/2023 11:06	EM2302832	150	MPW: 93-95, 85-87	container	2	X										16-Aug-23
						TOTAL	36											

Rebatch

Client / Client code: AECOMAU
Project: SA_0930_PFASOMP_23
Project Manager: [redacted]
Date /time sample rec: 21/02/2023 4:10PM
Date/time Instructions rec: Thursday, 2 March 2023 10:10 AM
Due date: Friday, 3 March 2023
Due date surcharge: 1DAY

EM-3629

CS Contact: [redacted]
Additional Information:
report recipient as per main WO and include requester

URGENT

New Lab ID	Sample information: Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of Containers	Analysis: Standard: EP231X PFAS	Standard				Leach					Shortest Holding time expiry
1	Unlabelled Sample #1	21/02/2023	EM2302832	163	MPW 0093-5, 85,86,87	WATER		X										20-Aug-23
2	Unlabelled Sample #2	21/02/2023	EM2302832	164		WATER		X										20-Aug-23

Environmental

[redacted]

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[redacted]

AECOM PROJECT - CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: [redacted]	LABORATORY: ALS	All results to be provided in ESDAT format.	FOR LABORATORY USE ONLY
ADDRESS: [redacted]	ADDRESS: [redacted]	email address: adelaide@urscorp.com	
PHONE NO:	PHONE NO:	[redacted]	
FAX NO:	FAX NO:		
PROJECT NAME: SA_0939_PFASOMP_23	PROJECT MANAGE		
	SAMPLERS:	SIGNED:	
PROJECT NO/PURCHASE ORDER: 60612561 - 6.1			ANALYSIS REQUIRED

COMMENTS: SPECIAL HANDLING/STORAGE

Please circle
SY/139/19 V3

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID			Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS				Hold
1	EDN	EDN	Water	Primary	0939_MW2189	_	230302	02/03/2023	PFAS	NA	4	1				
2	EDN	EDN	Water	Primary	0939_MW4021	_	230302	02/03/2023	PFAS	NA	2					1
3	EDN	EDN	Water	Primary	0939_MW4077	_	230302	02/03/2023	PFAS	NA	4					1
4	EDN	EDN	Water	QAQC	0939_QC114	_	230302	02/03/2023	PFAS	NA	2					1
5	EDN	EDN	Water	QAQC	0939_QC214	_	230302	02/03/2023	PFAS	NA	2					1
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_										
						_					TOTAL	1	0	0	0	4

Environmental Division
Melbourne
Work Order Reference
EM2303877

Telephone : +61-3-8549 9600

Custody Seal ?	Y N NA	RELINQUISHED BY:	CHECKED:	CONTAINER TYPE AND PRESERVATIVE CODES
Samples Cold ?	Y N NA	DATE:	TIME:	P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar
Comments:		RECEIVED BY: ALS	CHECKED:	S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;
		DATE: 3/3/23	TIME: 8:58	Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

FREIGHT

AECOM PROJECT - CHAIN OF CUSTODY

PAGE __1__ OF __1__

CLIENT: [redacted]	LABORATORY: [redacted]	All results to be provided in ESDAT format. email address: adelaide@urscorp.com	FOR LABORATORY USE ONLY
ADDRESS:	ADDRESS:		
PHONE NO:	PHONE NO:		
FAX NO:	FAX NO:		
PROJECT NAME: SA_0939_PFASOMP_23	PROJECT MANAG		
PROJECT NO/PURCHASE ORDER: 60612561 - 6.1	SAMPLERS:	SIGNED:	ANALYSIS REQUIRED

COMMENTS: SPECIAL HANDLING/STORAGE

Please circle
SY/139/19 V3

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID	Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS				Hold
1	EDN	EDN	Water	Primary	0939_MW2137 _ 230322	22/03/2023	PFAS	NA	2	1				
2	EDN	EDN	Water	Primary	0939_MW2135 _ 230322	22/03/2023	PFAS	NA	2	1				
3	EDN	EDN	Water	Primary	0939_MW2285 _ 230322	22/03/2023	PFAS	NA	2	1				
4	EDN	EDN	Water	QAQC	0939_QC115 _ 230322	22/03/2023	PFAS	NA	2	1				
	EDN	EDN	Water	QAQC	0939_QC215 _ 230322	22/03/2023	PFAS	NA	2	Please forward to NMI				
5	EDN	EDN	Water	QAQC	0939_QC308 _ 230322	22/03/2023	PFAS	NA	2	1				
6	EDN	EDN	Water	QAQC	0939_QC408 _ 230322	22/03/2023	PFAS	NA	2	1				
7	EDN	EDN	Water	QAQC	0939_QC505 _ 230322	22/03/2023	PFAS	NA	2	1				
					_									
					_									
					_									
					_									
					_									
					_									
					_									
					_									
					_									
					_									
					_									
					_				TOTAL					

Environmental Division
Melbourne
Work Order Reference
EM2305133

Telephone : +61-3-8549 9600

Custody Seal ? Y N (NA)
Samples Cold ? Y N (NA)
Comments: 25°C

RELINQUISHED BY: Georgia C CHECKED:
DATE: 22/03/23 TIME:
RECEIVED BY: KBurns CHECKED: 23.3.23
DATE: ALS TIME: 11.39

CONTAINER TYPE AND PRESERVATIVE CODES
P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar
S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;
Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

Monica Ans
23/3 1030

AECOO4 | 230224 J 3/3
AO

271

AECOM PROJECT - CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: [redacted]

ADDRESS:

PHONE NO:

FAX NO:

PROJECT NAME:

PROJECT NO:

LABORATORY: [redacted]

ADDRESS:

PHONE NO:

FAX NO:

PROJECT MANAGE

SAMPLERS:

LABORATORY USE ONLY

COMMENTS: SPECIAL HANDLING/STORAGE

ANALYSIS REQUIRED

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID			Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS (28 Analytes)				hold
N23/003369	EDN	EDN	Water	QC	QC201	_	230130	30/01/23	PFAS	-	2	1				
N23/003370					QC202	_	230130	30/01/23	PFAS	-	2	1				
N23/003371					QC203	_	230131	31/01/23	PFAS	-	2	1	23FEB'23	11:49		
N23/003372					QC204	_	230131	31/01/23	PFAS	-	2	1				
N23/003373					QC205	_	230201	01/02/23	PFAS	-	2	1				
N23/003374					QC206	_	230202	02/02/23	PFAS	-	2	1				
N23/003375					QC207	_	230202	02/02/23	PFAS	-	2					1
N23/003376					QC208	_	230215	15/02/23	PFAS	-	2	1				
N23/003377					QC209	_	230216	16/02/23	PFAS	-	2	1				
N23/003378					QC210	_	230216	16/02/23	PFAS	-	2	1				
N23/003379					QC211	_	230216	16/02/23	PFAS	-	2	1				
N23/003380					QC212	_	230216	16/02/23	PFAS	-	2	1				
N23/003381					QC213	_	230216	16/02/23	PFAS	-	2	1				
						_										
						_										
											TOTAL	12	0	0	0	1

Custody Seal ? Y N NA

Samples Cold ? Y N NA

Comments:

RELINQUISHED BY: ELP CHECKED:

DATE: 22-2-23 TIME: 1755

RECEIVED BY: CHECKED:

DATE: TIME:

RECEIVED
24 FEB 2023
BY: AO 930 C

CONTAINER TYPE AND PRESERVATIVE CODES

P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar

S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;

Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

Cescato, Imogen

[redacted] Monday, 6 March 2023 4:44 PM
To: [redacted]
Subject: RE: NMI RESULTS FOR JOB AECO04/230224 [SEC=OFFICIAL:Sensitive]
Attachments: RE: Sample Receipt Notification for Job AECO04/230224 [SEC=OFFICIAL]; RN1384535.pdf

Hi,

These samples were mislabelled on the COC, could we please get them changed.

All samples need to have “0939_” in front of them.
- So QC201_230130 needs to be 0939_QC201_230130
- QC202_230130 needs be to 0939_QC202_230130 etc etc

Can we please get this done for every sample on this lab report, including on the ESDAT documents and QA report.

[redacted]

Please find NMI results for your Job attached.
If you have any questions or need any further information about these results, please forward this message to our Customer Service team at customerservice@measurement.gov.au with your query.

Thank you for using the services of the National Measurement Institute.



AECOM PROJECT – CHAIN OF CUSTODY

CLIENT:	[redacted]	LABORATORY:	[redacted]
ADDRESS:	[redacted] St	ADDRESS:	
PHONE NO:		PHONE NO:	
FAX NO:		FAX NO:	
PROJECT NAME:	SA_0939_PFASOMP_23	PROJECT MANAGE	
		SAMPLERS:	
PROJECT NO:	60612561 6.1		

ORATORY USE ONLY

COMMENTS: SPECIAL HANDLING/STORAGE

ANALYSIS REQUIRED

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID			Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS (28 Analytes)				hold
	EDN	EDN	Water	QC	0939_QC215	_	230322	22/03/2023	PFAS	-	2	1				
						_										
						_										
											TOTAL	1	0	0	0	0

Custody Seal ?	Y N NA	RELINQUISHED BY:	CHECKED:
Samples Cold ?	Y N NA	DATE:	TIME:
Comments:		RECEIVED BY:	CHECKED:
		DATE:	TIME:

CONTAINER TYPE AND PRESERVATIVE CODES

P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar

S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;

Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

Appendix E

Laboratory Certificates

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2302832**
Amendment	: **2**
Client	[redacted]
Contact	
Address	
E-mail	
Telephone	
Facsimile	

Project	: SA_0939_PFASOMP_23	Page	: 1 of 6
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: 47609	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0939_EDN		
Sampler	[redacted]		

Dates

Date Samples Received	: 21-Feb-2023 15:40	Issue Date	: 09-Mar-2023
Client Requested Due Date	: 28-Feb-2023	Scheduled Reporting Date	: **28-Feb-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 4	Temperature	: 17.95°c
Receipt Detail	:	No. of samples received / analysed	: 151 / 131

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- Amendment (08/03/2023): This report has been amended to alter the sample IDs for sample #54 and 75 as per the e-mail request from Imogen Cescato on 08/03/2023 @ 4:29 pm. All analysis results are as per the report.
- 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.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2302832-123 : 02-Feb-2023 09:14 : 0939_SW078_230202 - Forward to secondary lab
EM2302832-163 : [21-Feb-2023] : Unlabelled Sample #1
EM2302832-164 : [21-Feb-2023] : Unlabelled Sample #2

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)
EM2302832-001	30-Jan-2023 10:01	0939_MW2285_230130		✓
EM2302832-002	30-Jan-2023 08:54	0939_MW2185_220130		✓
EM2302832-003	30-Jan-2023 08:58	0939_MW2281_230130		✓
EM2302832-004	30-Jan-2023 09:15	0939_MW2286_230130		✓
EM2302832-005	30-Jan-2023 09:25	0939_MW2184_230130		✓
EM2302832-006	30-Jan-2023 09:35	0939_MW2183_230130		✓
EM2302832-007	30-Jan-2023 09:41	0939_MW2182_230130		✓
EM2302832-008	30-Jan-2023 10:02	0939_MW2275_230130		✓
EM2302832-009	30-Jan-2023 10:09	0939_MW2180_230130		✓
EM2302832-010	30-Jan-2023 10:20	0939_MW2177_230130		✓
EM2302832-011	30-Jan-2023 10:28	0939_QC101_230130		✓
EM2302832-013	30-Jan-2023 10:40	0939_MW2175_230130		✓
EM2302832-014	30-Jan-2023 10:47	0939_MW2176_230130		✓
EM2302832-015	30-Jan-2023 10:59	0939_MW2173_230130		✓
EM2302832-016	30-Jan-2023 11:00	0939_MW2172_230130		✓
EM2302832-017	30-Jan-2023 11:29	0939_MW2145_230130		✓
EM2302832-018	30-Jan-2023 11:30	0939_MW2129_230130		✓
EM2302832-019	30-Jan-2023 11:41	0939_MW2169_230130		✓
EM2302832-020	30-Jan-2023 11:46	0939_MW2139_230130		✓
EM2302832-021	30-Jan-2023 12:02	0939_MW2166_230130		✓
EM2302832-022	30-Jan-2023 13:06	0939_MW2270_220725		✓
EM2302832-023	30-Jan-2023 13:07	0939_MW2200_230130		✓
EM2302832-024	30-Jan-2023 13:08	0939_MW2120_230130		✓
EM2302832-025	30-Jan-2023 13:31	0939_MW2201_230130		✓
EM2302832-026	30-Jan-2023 13:32	0939_MW2202_230130		✓
EM2302832-027	30-Jan-2023 14:56	0939_MW2203_230130		✓
EM2302832-028	30-Jan-2023 14:58	0939_QC102_230130		✓
EM2302832-030	30-Jan-2023 15:11	0939_MW2197_230123		✓
EM2302832-031	30-Jan-2023 15:22	0939_MW2193_230123		✓
EM2302832-032	30-Jan-2023 15:42	0939_MW2194_230130		✓
EM2302832-033	30-Jan-2023 16:24	0939_MW2188_230130		✓
EM2302832-034	31-Jan-2023 08:19	0939_MW2358_230130		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2302832-035	31-Jan-2023 08:19	0939_MW2126_230130		✓
EM2302832-036	31-Jan-2023 08:21	0939_MW2150_230130		✓
EM2302832-037	31-Jan-2023 08:22	0939_MW2394_230130		✓
EM2302832-038	31-Jan-2023 08:23	0939_MW2112_230130		✓
EM2302832-039	31-Jan-2023 08:24	0939_MW2162_230130		✓
EM2302832-040	31-Jan-2023 08:25	0939_MW2149_230130		✓
EM2302832-041	31-Jan-2023 08:47	0939_MW2490_230131		✓
EM2302832-042	31-Jan-2023 08:59	0939_MW2130_230131		✓
EM2302832-043	31-Jan-2023 09:00	0939_QC103_230131		✓
EM2302832-045	31-Jan-2023 09:18	0939_MW2209_230131		✓
EM2302832-046	31-Jan-2023 09:24	0939_MW2528_230131		✓
EM2302832-047	31-Jan-2023 09:33	0939_MW2157_230131		✓
EM2302832-048	31-Jan-2023 09:41	0939_MW2114_230131		✓
EM2302832-049	31-Jan-2023 09:49	0939_MW2131_230131		✓
EM2302832-050	31-Jan-2023 09:59	0939_MW2210_230131		✓
EM2302832-051	31-Jan-2023 11:26	0939_MW2148_230131		✓
EM2302832-052	31-Jan-2023 11:27	0939_MW2284_230131		✓
EM2302832-053	31-Jan-2023 11:27	0939_MW2158_230131		✓
EM2302832-054	31-Jan-2023 11:28	0939_MW2272_230131		✓
EM2302832-055	31-Jan-2023 11:29	0939_MW2218_230131		✓
EM2302832-056	31-Jan-2023 11:33	0939_MW2134_230131		✓
EM2302832-057	31-Jan-2023 12:44	0939_MW2501_230131		✓
EM2302832-058	31-Jan-2023 12:59	0661_MW2325_230131		✓
EM2302832-059	31-Jan-2023 13:24	0939_MW2116_230131		✓
EM2302832-060	31-Jan-2023 13:52	0939_MW2216_230131		✓
EM2302832-061	31-Jan-2023 14:04	0939_MW2135_230131		✓
EM2302832-062	31-Jan-2023 14:05	0939_QC104_230131		✓
EM2302832-064	31-Jan-2023 14:50	0939_MW2159_230131		✓
EM2302832-065	31-Jan-2023 14:54	0939_QC301_230130		✓
EM2302832-066	30-Jan-2023 18:55	0939_QC401_230130		✓
EM2302832-067	31-Jan-2023 14:56	0939_QC302_230131		✓
EM2302832-068	31-Jan-2023 14:57	0939_QC402_230131		✓
EM2302832-069	01-Feb-2023 11:04	0939_MW4218_230201		✓
EM2302832-070	01-Feb-2023 11:33	0939_MW4061_230101		✓
EM2302832-071	01-Feb-2023 11:39	0939_MW4065_230201		✓
EM2302832-072	01-Feb-2023 13:25	0939_MW2499_230201		✓
EM2302832-073	01-Feb-2023 13:26	0939_MW4020__230201		✓
EM2302832-074	01-Feb-2023 13:27	0939_MW4022_230201		✓
EM2302832-075	01-Feb-2023 13:35	0939_MW4009_230201		✓
EM2302832-076	01-Feb-2023 14:27	0939_MW4072_230201		✓
EM2302832-077	01-Feb-2023 14:55	0939_MW4220_230201		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2302832-078	01-Feb-2023 15:14	0939_MW4003_230201		✓
EM2302832-079	01-Feb-2023 15:14	0939_QC105_230201		✓
EM2302832-081	01-Feb-2023 15:37	0939_MW4219_230201		✓
EM2302832-082	01-Feb-2023 16:35	0939_QC303_230201		✓
EM2302832-083	01-Feb-2023 16:35	0939_QC403_230201		✓
EM2302832-084	01-Feb-2023 16:52	0939_MW2411_230201		✓
EM2302832-085	02-Feb-2023 07:54	0939_QC106_230202		✓
EM2302832-087	03-Feb-2023 09:10	0939_MW4223_230203		✓
EM2302832-088	03-Feb-2023 10:52	0939_QC304_230202		✓
EM2302832-089	03-Feb-2023 10:52	0939_QC404_230202		✓
EM2302832-090	03-Feb-2023 10:53	0939_QC305_230203		✓
EM2302832-091	03-Feb-2023 10:54	0939_QC405_230203		✓
EM2302832-092	15-Feb-2023 08:05	0939_MW4078_230215		✓
EM2302832-093	15-Feb-2023 08:05	0939_MW4058_230215		✓
EM2302832-094	15-Feb-2023 08:42	0939_MW4079_230215		✓
EM2302832-095	15-Feb-2023 08:43	0939_MW4066_230215		✓
EM2302832-096	15-Feb-2023 08:44	0939_MW4057_230215		✓
EM2302832-097	15-Feb-2023 08:44	0939_MW4073_230215		✓
EM2302832-098	15-Feb-2023 10:21	0939_MW4068_220215		✓
EM2302832-099	15-Feb-2023 10:33	0939_MW4015_220215		✓
EM2302832-100	15-Feb-2023 10:59	0939_MW4060_230215		✓
EM2302832-101	15-Feb-2023 11:12	0939_MW4071_230215		✓
EM2302832-102	15-Feb-2023 12:05	0939_MW4027_230215		✓
EM2302832-103	15-Feb-2023 13:27	0939_MW4059_230215		✓
EM2302832-104	15-Feb-2023 13:28	0939_MW4076_230215		✓
EM2302832-105	15-Feb-2023 13:48	0939_MW4064_230215		✓
EM2302832-106	02-Feb-2023 11:22	0939_SW012_230202	✓	
EM2302832-107	02-Feb-2023 11:41	0939_SW006_230202	✓	
EM2302832-108	02-Feb-2023 08:30	0939_SW009_230202	✓	
EM2302832-109	02-Feb-2023 08:52	0939_SW010_230202	✓	
EM2302832-110	02-Feb-2023 11:51	0939_SW018_230202	✓	
EM2302832-111	02-Feb-2023 10:07	0939_SW054_230202	✓	
EM2302832-112	02-Feb-2023 11:57	0939_SW017_230202	✓	
EM2302832-113	16-Feb-2023 08:19	0939_MW4075_230216		✓
EM2302832-114	02-Feb-2023 12:12	0939_SW021_230202	✓	
EM2302832-115	02-Feb-2023 07:54	0939_SW028_230202	✓	
EM2302832-116	02-Feb-2023 07:38	0939_SW029_230202	✓	
EM2302832-117	02-Feb-2023 08:10	0939_SW032_230202	✓	
EM2302832-118	02-Feb-2023 11:14	0939_SW050_230202	✓	
EM2302832-120	02-Feb-2023 08:49	0939_SW058_230202	✓	
EM2302832-121	02-Feb-2023 09:54	0939_SW059_230202	✓	

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2302832-122	02-Feb-2023 09:39	0939_SW062_230202	✓	
EM2302832-123	02-Feb-2023 09:14	0939_SW078_230202 F...	✓	
EM2302832-124	02-Feb-2023 11:52	0939_QC107_230202	✓	
EM2302832-125	16-Feb-2023 08:21	0939_MW4221_230216		✓
EM2302832-126	16-Feb-2023 08:22	0939_MW4222_230216		✓
EM2302832-127	15-Feb-2023 08:25	0939_MW4055_230216		✓
EM2302832-128	15-Feb-2023 08:26	0939_MW4053_230215		✓
EM2302832-130	16-Feb-2023 08:30	0939_QC108_230215		✓
EM2302832-131	16-Feb-2023 08:31	0939_MW4052_230115		✓
EM2302832-132	16-Feb-2023 08:34	0939_MW4069_230216		✓
EM2302832-133	16-Feb-2023 08:45	0939_MW4048_230216		✓
EM2302832-134	16-Feb-2023 08:51	0939_MW4001_230216		✓
EM2302832-135	16-Feb-2023 10:46	0939_MW4024_230216		✓
EM2302832-136	16-Feb-2023 10:49	0939_MW4023_230216		✓
EM2302832-137	16-Feb-2023 10:50	0939_QC109_230216		✓
EM2302832-139	16-Feb-2023 10:53	0939_MW4070_230215		✓
EM2302832-140	16-Feb-2023 12:21	0939_MW4035_230216		✓
EM2302832-141	16-Feb-2023 13:25	0939_MW4074_230216		✓
EM2302832-142	16-Feb-2023 13:53	0939_MW4041_230216		✓
EM2302832-143	16-Feb-2023 13:54	0939_QC110_230216		✓
EM2302832-145	16-Feb-2023 14:40	0939_MW4037_230216		✓
EM2302832-146	16-Feb-2023 14:54	0939_MW4013_230216		✓
EM2302832-147	16-Feb-2023 14:56	0939_QC111_230216		✓
EM2302832-149	16-Feb-2023 10:35	0939_QC407_230216		✓
[redacted]				
EM2302832-151	16-Feb-2023 10:37	0939_QC113_230216		✓
[redacted]				
EM2302832-155	15-Feb-2023 10:47	0939_QC406_230215		✓
EM2302832-156	15-Feb-2023 10:47	0939_QC306_230215		✓
EM2302832-157	16-Feb-2023 10:48	0939_QC307_230216		✓
EM2302832-158	17-Feb-2023 10:50	0939_MW4045_230215		✓
EM2302832-159	02-Feb-2023 10:37	0939_QC501_230202		✓
EM2302832-160	02-Feb-2023 10:41	0939_QC502_230202		✓
EM2302832-161	16-Feb-2023 10:42	0939_QC503_230216		✓
EM2302832-162	16-Feb-2023 10:43	0939_QC504_230216		✓
EM2302832-163	[21-Feb-2023]	Unlabelled Sample #1	✓	
EM2302832-164	[21-Feb-2023]	Unlabelled Sample #2	✓	

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

ADELAIDE URS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- A4 - AU Tax Invoice (INV) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2302832**	Page	: 1 of 57
Amendment	: **3**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023 15:40
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 22-Feb-2023
C-O-C number	: 47609	Issue Date	: 09-Mar-2023 13:21
Sampler	: [redacted]		
Site	: 0939_EDN		
Quote number	: SY/139/19 V3		
No. of samples received	: 151		
No. of samples analysed	: 131		

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: Poor matrix spike recovery for samples EM2302832-006, 049 due to sample matrix interference.
- EP231X: Samples (EM2302832) 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 QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (08/03/2023): This report has been amended to alter the sample IDs for sample #54 and 75 as per the e-mail request from Imogen Cescato on 08/03/2023 @ 4:29 pm. All analysis results are as per the report.
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail. All analysis results are as per the report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2285_230130	0939_MW2185_220130	0939_MW2281_230130	0939_MW2286_230130	0939_MW2184_230130
				Sampling date / time	30-Jan-2023 10:01	30-Jan-2023 08:54	30-Jan-2023 08:58	30-Jan-2023 09:15	30-Jan-2023 09:25
					EM2302832-001	EM2302832-002	EM2302832-003	EM2302832-004	EM2302832-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.05**	**0.43**	**0.12**	**0.02**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.44**	**0.40**	**0.06**	**0.03**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**13.7**	**4.01**	**0.76**	**0.30**	**0.08**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.58**	**0.29**	**0.06**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**12.3**	**8.32**	**1.83**	**0.40**	**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		**0.23**	**0.12**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.35**	**0.51**	**0.10**	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.12**	**0.09**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.33**	**0.21**	**0.04**	**0.01**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2285_230130	0939_MW2185_220130	0939_MW2281_230130	0939_MW2286_230130	0939_MW2184_230130
				Sampling date / time	30-Jan-2023 10:01	30-Jan-2023 08:54	30-Jan-2023 08:58	30-Jan-2023 09:15	30-Jan-2023 09:25
Compound	CAS Number	LOR	Unit		EM2302832-001	EM2302832-002	EM2302832-003	EM2302832-004	EM2302832-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<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		**31.1**	**14.4**	**2.97**	**0.79**	**0.22**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**26.0**	**12.3**	**2.59**	**0.70**	**0.22**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**29.1**	**13.7**	**2.85**	**0.76**	**0.22**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**98.8**	**102**	**104**	**99.7**
13C8-PFOA	----	0.02	%		**98.1**	**95.1**	**99.9**	**96.4**	**99.2**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2183_230130	0939_MW2182_230130	0939_MW2275_230130	0939_MW2180_230130	0939_MW2177_230130
				Sampling date / time	30-Jan-2023 09:35	30-Jan-2023 09:41	30-Jan-2023 10:02	30-Jan-2023 10:09	30-Jan-2023 10:20
					EM2302832-006	EM2302832-007	EM2302832-008	EM2302832-009	EM2302832-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.20**	<0.02	<0.02	<0.02	**0.08**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.18**	<0.02	**0.04**	**1.10**	**0.12**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.86**	**0.08**	**1.48**	**37.8**	**2.30**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.15**	<0.02	**0.05**	**4.95**	**0.19**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3.73**	**0.21**	**0.38**	**43.6**	**4.22**
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	**0.03**	**0.71**	**0.05**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.30**	<0.02	**0.21**	**4.64**	**0.38**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.05**	<0.02	**0.03**	**0.53**	**0.04**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.10**	<0.01	**0.13**	**5.24**	**0.11**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.07**	<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	**0.07**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2183_230130	0939_MW2182_230130	0939_MW2275_230130	0939_MW2180_230130	0939_MW2177_230130
				Sampling date / time	30-Jan-2023 09:35	30-Jan-2023 09:41	30-Jan-2023 10:02	30-Jan-2023 10:09	30-Jan-2023 10:20
					EM2302832-006	EM2302832-007	EM2302832-008	EM2302832-009	EM2302832-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.07**	<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		**6.63**	**0.29**	**2.42**	**98.8**	**7.49**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**5.59**	**0.29**	**1.86**	**81.4**	**6.52**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**6.30**	**0.29**	**2.33**	**92.6**	**7.18**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.9**	**101**	**107**	**81.6**	**103**
13C8-PFOA	----	0.02	%		**93.7**	**95.9**	**98.2**	**99.4**	**96.1**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC101_230130	0939_MW2175_230130	0939_MW2176_230130	0939_MW2173_230130	0939_MW2172_230130
				Sampling date / time	30-Jan-2023 10:28	30-Jan-2023 10:40	30-Jan-2023 10:47	30-Jan-2023 10:59	30-Jan-2023 11:00
					EM2302832-011	EM2302832-013	EM2302832-014	EM2302832-015	EM2302832-016
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.08**	**0.05**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.11**	**0.06**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.20**	**0.43**	<0.01	**0.04**	**0.16**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.19**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3.74**	**0.08**	<0.01	**0.07**	**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		**0.05**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.38**	**0.04**	<0.02	<0.02	<0.02
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**	<0.01	<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	0939_QC101_230130	0939_MW2175_230130	0939_MW2176_230130	0939_MW2173_230130	0939_MW2172_230130
				Sampling date / time	30-Jan-2023 10:28	30-Jan-2023 10:40	30-Jan-2023 10:47	30-Jan-2023 10:59	30-Jan-2023 11:00
Compound	CAS Number	LOR	Unit		EM2302832-011	EM2302832-013	EM2302832-014	EM2302832-015	EM2302832-016
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**6.89**	**0.66**	<0.01	**0.11**	**0.17**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**5.94**	**0.51**	<0.01	**0.11**	**0.17**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**6.59**	**0.60**	<0.01	**0.11**	**0.17**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.7**	**83.0**	**94.6**	**106**	**100.0**
13C8-PFOA	----	0.02	%		**97.7**	**98.1**	**97.8**	**97.1**	**95.8**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2145_230130	0939_MW2129_230130	0939_MW2169_230130	0939_MW2139_230130	0939_MW2166_230130
				Sampling date / time	30-Jan-2023 11:29	30-Jan-2023 11:30	30-Jan-2023 11:41	30-Jan-2023 11:46	30-Jan-2023 12:02
					EM2302832-017	EM2302832-018	EM2302832-019	EM2302832-020	EM2302832-021
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	**0.45**	**0.03**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	**1.08**	**0.04**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.66**	**20.0**	**0.44**	**0.15**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	**0.58**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.85**	**5.16**	**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**	**0.42**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.11**	**3.09**	**0.07**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.34**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.03**	**0.95**	<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	0939_MW2145_230130	0939_MW2129_230130	0939_MW2169_230130	0939_MW2139_230130	0939_MW2166_230130
				Sampling date / time	30-Jan-2023 11:29	30-Jan-2023 11:30	30-Jan-2023 11:41	30-Jan-2023 11:46	30-Jan-2023 12:02
Compound	CAS Number	LOR	Unit		EM2302832-017	EM2302832-018	EM2302832-019	EM2302832-020	EM2302832-021
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<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		**1.81**	**32.2**	**0.67**	**0.15**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.51**	**25.2**	**0.53**	**0.15**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.71**	**30.5**	**0.63**	**0.15**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**100**	**97.1**	**96.2**	**94.2**
13C8-PFOA	----	0.02	%		**97.9**	**101**	**95.5**	**102**	**99.1**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2270_220725	0939_MW2200_230130	0939_MW2120_230130	0939_MW2201_230130	0939_MW2202_230130
				Sampling date / time	30-Jan-2023 13:06	30-Jan-2023 13:07	30-Jan-2023 13:08	30-Jan-2023 13:31	30-Jan-2023 13:32
					EM2302832-022	EM2302832-023	EM2302832-024	EM2302832-025	EM2302832-026
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.15**	**5.76**	**2.33**	**0.02**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.13**	**5.48**	**4.11**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.99**	**45.6**	**60.5**	**0.22**	**0.01**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.05**	**2.95**	**8.39**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.82**	**43.4**	**143**	**0.20**	**0.06**
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	**0.5**	**0.2**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.03**	**1.80**	**0.77**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.20**	**9.11**	**5.32**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	**1.28**	**1.23**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.05**	**2.58**	**6.21**	<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 (PFTrDA)	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	<0.09	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	**0.82**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.05

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2270_220725	0939_MW2200_230130	0939_MW2120_230130	0939_MW2201_230130	0939_MW2202_230130
				Sampling date / time	30-Jan-2023 13:06	30-Jan-2023 13:07	30-Jan-2023 13:08	30-Jan-2023 13:31	30-Jan-2023 13:32
					EM2302832-022	EM2302832-023	EM2302832-024	EM2302832-025	EM2302832-026
					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	<0.09	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.09	<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		**2.45**	**118**	**233**	**0.44**	**0.07**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.81**	**89.0**	**204**	**0.42**	**0.07**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2.27**	**110**	**220**	**0.44**	**0.07**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.0**	**83.4**	**98.7**	**94.0**	**86.8**
13C8-PFOA	----	0.02	%		**96.3**	**97.5**	**97.3**	**99.1**	**98.7**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2203_230130	0939_QC102_230130	0939_MW2197_230123	0939_MW2193_230123	0939_MW2194_230130
				Sampling date / time	30-Jan-2023 14:56	30-Jan-2023 14:58	30-Jan-2023 15:11	30-Jan-2023 15:22	30-Jan-2023 15:42
					EM2302832-027	EM2302832-028	EM2302832-030	EM2302832-031	EM2302832-032
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**71.5**	**70.4**	**18.1**	**4.06**	**0.05**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**111**	**112**	**30.9**	**4.80**	**0.03**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**797**	**728**	**160**	**29.6**	**0.47**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**62.3**	**58.3**	**15.4**	**2.01**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3750**	**3440**	**353**	**48.1**	**0.80**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.39	<0.37	<0.04	**0.06**	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**6.3**	**6.2**	**2.0**	**0.5**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**35.3**	**34.6**	**7.02**	**1.42**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**193**	**187**	**37.6**	**8.63**	**0.08**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**25.2**	**25.5**	**5.47**	**0.75**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**58.5**	**58.9**	**11.5**	**1.42**	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.52**	**0.63**	**0.10**	<0.04	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.97	<0.93	<0.09	<0.10	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.39	<0.37	**0.30**	**0.08**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.97	<0.93	<0.09	<0.10	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.97	<0.93	<0.09	<0.10	<0.05

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2203_230130	0939_QC102_230130	0939_MW2197_230123	0939_MW2193_230123	0939_MW2194_230130
				Sampling date / time	30-Jan-2023 14:56	30-Jan-2023 14:58	30-Jan-2023 15:11	30-Jan-2023 15:22	30-Jan-2023 15:42
					EM2302832-027	EM2302832-028	EM2302832-030	EM2302832-031	EM2302832-032
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.97	<0.93	<0.09	<0.10	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.97	<0.93	<0.09	<0.10	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.39	<0.37	<0.04	<0.04	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.39	<0.37	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.39	<0.37	**0.10**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.39	<0.37	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.39	<0.37	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**5110**	**4720**	**641**	**101**	**1.49**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**4550**	**4170**	**513**	**77.7**	**1.27**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**4940**	**4550**	**595**	**94.5**	**1.42**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**109**	**129**	**87.9**	**101**	**90.7**
13C8-PFOA	----	0.02	%		**97.0**	**100**	**95.5**	**96.5**	**98.0**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2188_230130	0939_MW2358_230130	0939_MW2126_230130	0939_MW2150_230130	0939_MW2394_230130
				Sampling date / time	30-Jan-2023 16:24	31-Jan-2023 08:19	31-Jan-2023 08:19	31-Jan-2023 08:21	31-Jan-2023 08:22
					EM2302832-033	EM2302832-034	EM2302832-035	EM2302832-036	EM2302832-037
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**9.44**	**9.55**	**0.08**	**0.13**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**16.6**	**12.7**	**0.06**	**0.21**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**105**	**71.1**	**0.65**	**3.52**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**7.45**	**5.19**	**0.05**	**0.22**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**199**	**50.2**	**0.42**	**11.7**	**0.06**
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		**1.0**	**1.3**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**3.90**	**3.59**	**0.04**	**0.06**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**20.2**	**20.3**	**0.14**	**0.29**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**2.49**	**2.36**	<0.02	**0.04**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**5.76**	**2.89**	**0.03**	**0.11**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.04	<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		<0.04	<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
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.09	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2188_230130	0939_MW2358_230130	0939_MW2126_230130	0939_MW2150_230130	0939_MW2394_230130
				Sampling date / time	30-Jan-2023 16:24	31-Jan-2023 08:19	31-Jan-2023 08:19	31-Jan-2023 08:21	31-Jan-2023 08:22
Compound	CAS Number	LOR	Unit		EM2302832-033	EM2302832-034	EM2302832-035	EM2302832-036	EM2302832-037
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
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		<0.05	<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		**371**	**179**	**1.47**	**16.3**	**0.08**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**304**	**121**	**1.07**	**15.2**	**0.08**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**347**	**161**	**1.36**	**15.8**	**0.08**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**104**	**91.5**	**90.5**	**87.9**
13C8-PFOA	----	0.02	%		**95.2**	**99.2**	**99.9**	**95.6**	**96.4**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2112_230130	0939_MW2162_230130	0939_MW2149_230130	0939_MW2490_230131	0939_MW2130_230131
				Sampling date / time	31-Jan-2023 08:23	31-Jan-2023 08:24	31-Jan-2023 08:25	31-Jan-2023 08:47	31-Jan-2023 08:59
					EM2302832-038	EM2302832-039	EM2302832-040	EM2302832-041	EM2302832-042
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	**0.07**	**8.03**	**15.0**	**6.77**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.05**	**0.03**	**13.5**	**34.0**	**7.99**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.52**	**0.33**	**88.3**	**193**	**46.4**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	<0.02	**10.3**	**11.0**	**4.76**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.56**	**0.16**	**139**	**310**	**225**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.04	**0.24**	**1.13**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**1.2**	**1.8**	**1.8**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.02**	<0.02	**3.98**	**7.60**	**5.96**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.07**	**0.04**	**21.0**	**44.7**	**32.1**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**3.21**	**4.69**	**4.89**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.05**	**0.01**	**9.21**	**12.5**	**9.32**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.05**	**0.09**	**0.30**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	**0.12**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.04
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.09
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	**0.31**	**0.32**	**0.34**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.09
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.09

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2112_230130	0939_MW2162_230130	0939_MW2149_230130	0939_MW2490_230131	0939_MW2130_230131
				Sampling date / time	31-Jan-2023 08:23	31-Jan-2023 08:24	31-Jan-2023 08:25	31-Jan-2023 08:47	31-Jan-2023 08:59
Compound	CAS Number	LOR	Unit		EM2302832-038	EM2302832-039	EM2302832-040	EM2302832-041	EM2302832-042
					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	<0.09	<0.09	<0.09
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.09
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.04
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<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	**0.26**	<0.05	**0.34**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	**0.18**
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		**3.35**	**0.64**	**298**	**635**	**347**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.08**	**0.49**	**227**	**503**	**271**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**3.26**	**0.61**	**274**	**589**	**333**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**86.4**	**93.6**	**90.8**	**104**	**115**
13C8-PFOA	----	0.02	%		**98.3**	**97.0**	**103**	**101**	**97.7**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC103_230131	0939_MW2209_230131	0939_MW2528_230131	0939_MW2157_230131	0939_MW2114_230131
				Sampling date / time	31-Jan-2023 09:00	31-Jan-2023 09:18	31-Jan-2023 09:24	31-Jan-2023 09:33	31-Jan-2023 09:41
					EM2302832-043	EM2302832-045	EM2302832-046	EM2302832-047	EM2302832-048
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**6.84**	<0.02	**2.79**	**0.50**	**30.8**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**7.92**	<0.02	**1.34**	**0.61**	**26.0**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**47.4**	<0.01	**9.29**	**3.94**	**116**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**4.75**	<0.02	**0.59**	**0.41**	**14.3**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**212**	**0.20**	**28.2**	**10.5**	**190**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**1.12**	<0.02	**0.14**	<0.02	<0.04
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**1.8**	<0.1	**5.8**	<0.1	**4.0**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.96**	<0.02	**5.86**	**0.19**	**7.96**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**31.5**	<0.02	**8.94**	**0.98**	**36.7**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**5.06**	<0.02	**0.72**	**0.14**	**10.7**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**9.24**	<0.01	**1.26**	**0.31**	**21.1**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.32**	<0.02	**0.18**	<0.02	**0.10**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.13**	<0.02	**0.07**	<0.02	<0.04
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.02	<0.04	<0.02	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.04	<0.02	<0.04
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.02	<0.04	<0.02	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.05	<0.09	<0.05	<0.09
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.37**	<0.02	**0.14**	<0.02	<0.04
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.05	<0.09	<0.05	<0.09
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.05	<0.09	<0.05	<0.09

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC103_230131	0939_MW2209_230131	0939_MW2528_230131	0939_MW2157_230131	0939_MW2114_230131
				Sampling date / time	31-Jan-2023 09:00	31-Jan-2023 09:18	31-Jan-2023 09:24	31-Jan-2023 09:33	31-Jan-2023 09:41
Compound	CAS Number	LOR	Unit		EM2302832-043	EM2302832-045	EM2302832-046	EM2302832-047	EM2302832-048
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.05	<0.09	<0.05	<0.09
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.05	<0.09	<0.05	<0.09
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.02	<0.04	<0.02	<0.04
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<0.02	<0.04	<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	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.32**	<0.05	**0.10**	<0.05	**0.86**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.21**	<0.05	**0.07**	<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		**335**	**0.20**	**65.5**	**17.6**	**458**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**259**	**0.20**	**37.5**	**14.4**	**306**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**320**	**0.20**	**63.0**	**16.6**	**418**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**95.3**	**89.2**	**91.5**	**98.6**
13C8-PFOA	----	0.02	%		**98.0**	**100**	**89.1**	**102**	**94.1**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2131_230131	0939_MW2210_230131	0939_MW2148_230131	0939_MW2284_230131	0939_MW2158_230131
				Sampling date / time	31-Jan-2023 09:49	31-Jan-2023 09:59	31-Jan-2023 11:26	31-Jan-2023 11:27	31-Jan-2023 11:27
					EM2302832-049	EM2302832-050	EM2302832-051	EM2302832-052	EM2302832-053
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.98**	**8.32**	**76.0**	**0.46**	**71.7**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.36**	**6.62**	**89.0**	**0.38**	**83.6**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**14.4**	**39.7**	**523**	**2.39**	**404**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**1.27**	**7.26**	**51.8**	**0.18**	**59.1**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**229**	**65.5**	**684**	**2.25**	**1160**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.15**	<0.04	<0.35	<0.02	<0.34
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.7**	**1.2**	**5.5**	<0.1	**8.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.93**	**2.38**	**18.5**	**0.15**	**25.7**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**5.32**	**10.5**	**94.5**	**0.64**	**128**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.14**	**1.73**	**17.0**	**0.11**	**23.2**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**3.98**	**3.12**	**43.3**	**0.21**	**45.1**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.19**	<0.04	<0.35	<0.02	<0.34
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.06**	<0.04	<0.35	<0.02	<0.34
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.04	<0.35	<0.02	<0.34
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.04	<0.35	<0.02	<0.34
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.04	<0.35	<0.02	<0.34
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.09	<0.88	<0.05	<0.86
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**1.48**	<0.04	**0.37**	<0.02	**0.45**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.09	<0.88	<0.05	<0.86
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.09	<0.88	<0.05	<0.86

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2131_230131	0939_MW2210_230131	0939_MW2148_230131	0939_MW2284_230131	0939_MW2158_230131
				Sampling date / time	31-Jan-2023 09:49	31-Jan-2023 09:59	31-Jan-2023 11:26	31-Jan-2023 11:27	31-Jan-2023 11:27
					EM2302832-049	EM2302832-050	EM2302832-051	EM2302832-052	EM2302832-053
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.09	<0.88	<0.05	<0.86
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.09	<0.88	<0.05	<0.86
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.04	<0.35	<0.02	<0.34
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<0.04	<0.35	<0.02	<0.34
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	<0.34
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.37**	<0.05	<0.35	<0.05	<0.34
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.12**	<0.05	<0.35	<0.05	<0.34
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.35	<0.05	<0.34
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**262**	**146**	**1600**	**6.77**	**2010**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**243**	**105**	**1210**	**4.64**	**1560**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**258**	**132**	**1460**	**6.21**	**1860**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.3**	**112**	**131**	**88.1**	**118**
13C8-PFOA	----	0.02	%		**93.8**	**90.4**	**98.0**	**102**	**77.0**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2272_230131	0939_MW2218_230131	0939_MW2134_230131	0939_MW2501_230131	0661_MW2325_230131
				Sampling date / time	31-Jan-2023 11:28	31-Jan-2023 11:29	31-Jan-2023 11:33	31-Jan-2023 12:44	31-Jan-2023 12:59
					EM2302832-054	EM2302832-055	EM2302832-056	EM2302832-057	EM2302832-058
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.95**	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.79**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**4.45**	**0.04**	**0.06**	**0.08**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.38**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**4.44**	**0.43**	<0.01	**0.16**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.31**	<0.02	<0.02	**0.04**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.28**	<0.02	<0.02	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.23**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.42**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2272_230131	0939_MW2218_230131	0939_MW2134_230131	0939_MW2501_230131	0661_MW2325_230131
				Sampling date / time	31-Jan-2023 11:28	31-Jan-2023 11:29	31-Jan-2023 11:33	31-Jan-2023 12:44	31-Jan-2023 12:59
					EM2302832-054	EM2302832-055	EM2302832-056	EM2302832-057	EM2302832-058
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**13.4**	**0.47**	**0.06**	**0.32**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**8.89**	**0.47**	**0.06**	**0.24**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**12.3**	**0.47**	**0.06**	**0.32**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.0**	**92.9**	**92.5**	**88.5**	**91.1**
13C8-PFOA	----	0.02	%		**97.8**	**95.4**	**96.5**	**100**	**93.5**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2116_230131	0939_MW2216_230131	0939_MW2135_230131	0939_QC104_230131	0939_MW2159_230131
				Sampling date / time	31-Jan-2023 13:24	31-Jan-2023 13:52	31-Jan-2023 14:04	31-Jan-2023 14:05	31-Jan-2023 14:50
					EM2302832-059	EM2302832-060	EM2302832-061	EM2302832-062	EM2302832-064
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**660**	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**975**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**6010**	**0.01**	**0.05**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**426**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**5190**	**0.02**	**0.07**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**1.79**	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**46.7**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**240**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1150**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**191**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**371**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**2.04**	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.35	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.35	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.35	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.35	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.87	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**4.22**	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.87	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.87	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2116_230131	0939_MW2216_230131	0939_MW2135_230131	0939_QC104_230131	0939_MW2159_230131
				Sampling date / time	31-Jan-2023 13:24	31-Jan-2023 13:52	31-Jan-2023 14:04	31-Jan-2023 14:05	31-Jan-2023 14:50
Compound	CAS Number	LOR	Unit		EM2302832-059	EM2302832-060	EM2302832-061	EM2302832-062	EM2302832-064
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.87	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.87	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.35	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.35	<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		<0.35	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.74**	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.35	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.35	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**15300**	**0.03**	**0.12**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**11200**	**0.03**	**0.12**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**13800**	**0.03**	**0.12**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**126**	**87.6**	**91.8**	**89.1**	**85.9**
13C8-PFOA	----	0.02	%		**95.0**	**102**	**99.7**	**98.4**	**93.7**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC301_230130	0939_QC401_230130	0939_QC302_230131	0939_QC402_230131	0939_MW4218_230201
				Sampling date / time	31-Jan-2023 14:54	30-Jan-2023 18:55	31-Jan-2023 14:56	31-Jan-2023 14:57	01-Feb-2023 11:04
					EM2302832-065	EM2302832-066	EM2302832-067	EM2302832-068	EM2302832-069
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC301_230130	0939_QC401_230130	0939_QC302_230131	0939_QC402_230131	0939_MW4218_230201
				Sampling date / time	31-Jan-2023 14:54	30-Jan-2023 18:55	31-Jan-2023 14:56	31-Jan-2023 14:57	01-Feb-2023 11:04
Compound	CAS Number	LOR	Unit		EM2302832-065	EM2302832-066	EM2302832-067	EM2302832-068	EM2302832-069
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**87.1**	**103**	**99.5**	**103**	**94.4**
13C8-PFOA	----	0.02	%		**101**	**94.7**	**97.7**	**98.8**	**92.7**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4061_230101	0939_MW4065_230201	0939_MW2499_230201	0939_MW4020__230201	0939_MW4022_230201
				Sampling date / time	01-Feb-2023 11:33	01-Feb-2023 11:39	01-Feb-2023 13:25	01-Feb-2023 13:26	01-Feb-2023 13:27
					EM2302832-070	EM2302832-071	EM2302832-072	EM2302832-073	EM2302832-074
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**7.41**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**10.5**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**90.2**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**28.1**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**1530**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.10**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**1.3**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**4.94**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**21.4**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**2.57**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**11.2**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.32**	<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	<0.03	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.03	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.03	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.08	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	**0.93**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.08	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.08	<0.05	<0.05

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4061_230101	0939_MW4065_230201	0939_MW2499_230201	0939_MW4020__230201	0939_MW4022_230201
				Sampling date / time	01-Feb-2023 11:33	01-Feb-2023 11:39	01-Feb-2023 13:25	01-Feb-2023 13:26	01-Feb-2023 13:27
					EM2302832-070	EM2302832-071	EM2302832-072	EM2302832-073	EM2302832-074
					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	<0.08	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.08	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.03	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.03	<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	**1710**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**1620**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**1670**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**94.4**	**114**	**105**	**95.6**
13C8-PFOA	----	0.02	%		**93.7**	**95.0**	**94.4**	**94.4**	**93.8**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4009_230201	0939_MW4072_230201	0939_MW4220_230201	0939_MW4003_230201	0939_QC105_230201
				Sampling date / time	01-Feb-2023 13:35	01-Feb-2023 14:27	01-Feb-2023 14:55	01-Feb-2023 15:14	01-Feb-2023 15:14
					EM2302832-075	EM2302832-076	EM2302832-077	EM2302832-078	EM2302832-079
					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	**0.30**	**0.31**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.42**	**0.43**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.02**	<0.01	**3.48**	**3.54**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.27**	**0.28**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**8.85**	**9.08**
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	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	**0.09**	**0.09**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.45**	**0.46**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.08**	**0.09**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.21**	**0.21**
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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4009_230201	0939_MW4072_230201	0939_MW4220_230201	0939_MW4003_230201	0939_QC105_230201
				Sampling date / time	01-Feb-2023 13:35	01-Feb-2023 14:27	01-Feb-2023 14:55	01-Feb-2023 15:14	01-Feb-2023 15:14
					EM2302832-075	EM2302832-076	EM2302832-077	EM2302832-078	EM2302832-079
					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
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	**0.02**	<0.01	**14.2**	**14.5**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.02**	<0.01	**12.3**	**12.6**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.02**	<0.01	**13.5**	**13.8**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**101**	**101**	**95.0**	**93.0**
13C8-PFOA	----	0.02	%		**96.6**	**99.0**	**96.4**	**98.4**	**97.5**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4219_230201	0939_QC303_230201	0939_QC403_230201	0939_MW2411_230201	0939_QC106_230202
				Sampling date / time	01-Feb-2023 15:37	01-Feb-2023 16:35	01-Feb-2023 16:35	01-Feb-2023 16:52	02-Feb-2023 07:54
					EM2302832-081	EM2302832-082	EM2302832-083	EM2302832-084	EM2302832-085
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	<0.02	<0.02	**0.26**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	<0.02	<0.02	**0.11**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.19**	<0.01	<0.01	**0.46**	<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		**0.17**	<0.01	<0.01	**0.10**	<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	**0.06**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.22**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4219_230201	0939_QC303_230201	0939_QC403_230201	0939_MW2411_230201	0939_QC106_230202
				Sampling date / time	01-Feb-2023 15:37	01-Feb-2023 16:35	01-Feb-2023 16:35	01-Feb-2023 16:52	02-Feb-2023 07:54
					EM2302832-081	EM2302832-082	EM2302832-083	EM2302832-084	EM2302832-085
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.42**	<0.01	<0.01	**1.21**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.36**	<0.01	<0.01	**0.56**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.40**	<0.01	<0.01	**1.10**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**99.1**	**102**	**95.9**	**99.7**
13C8-PFOA	----	0.02	%		**94.5**	**98.2**	**96.3**	**96.7**	**92.3**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4223_230203	0939_QC304_230202	0939_QC404_230202	0939_QC305_230203	0939_QC405_230203
				Sampling date / time	03-Feb-2023 09:10	03-Feb-2023 10:52	03-Feb-2023 10:52	03-Feb-2023 10:53	03-Feb-2023 10:54
					EM2302832-087	EM2302832-088	EM2302832-089	EM2302832-090	EM2302832-091
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4223_230203	0939_QC304_230202	0939_QC404_230202	0939_QC305_230203	0939_QC405_230203
				Sampling date / time	03-Feb-2023 09:10	03-Feb-2023 10:52	03-Feb-2023 10:52	03-Feb-2023 10:53	03-Feb-2023 10:54
Compound	CAS Number	LOR	Unit		EM2302832-087	EM2302832-088	EM2302832-089	EM2302832-090	EM2302832-091
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.3**	**91.5**	**93.6**	**96.8**	**91.4**
13C8-PFOA	----	0.02	%		**96.1**	**100**	**102**	**101**	**97.1**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4078_230215	0939_MW4058_230215	0939_MW4079_230215	0939_MW4066_230215	0939_MW4057_230215
				Sampling date / time	15-Feb-2023 08:05	15-Feb-2023 08:05	15-Feb-2023 08:42	15-Feb-2023 08:43	15-Feb-2023 08:44
					EM2302832-092	EM2302832-093	EM2302832-094	EM2302832-095	EM2302832-096
					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**	**0.05**	**0.06**
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	**0.12**	**0.15**	**0.19**
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	**0.02**	**0.04**	**0.18**
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		<0.1	<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**	**0.03**
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	**0.02**	**0.01**	**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		<0.05	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4078_230215	0939_MW4058_230215	0939_MW4079_230215	0939_MW4066_230215	0939_MW4057_230215
				Sampling date / time	15-Feb-2023 08:05	15-Feb-2023 08:05	15-Feb-2023 08:42	15-Feb-2023 08:43	15-Feb-2023 08:44
					EM2302832-092	EM2302832-093	EM2302832-094	EM2302832-095	EM2302832-096
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.25**	**0.29**	**0.54**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.14**	**0.19**	**0.37**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.25**	**0.27**	**0.52**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**92.3**	**89.9**	**94.6**	**86.4**	**94.1**
13C8-PFOA	----	0.02	%		**94.5**	**95.0**	**97.2**	**97.3**	**94.0**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4073_230215	0939_MW4068_220215	0939_MW4015_220215	0939_MW4060_230215	0939_MW4071_230215
				Sampling date / time	15-Feb-2023 08:44	15-Feb-2023 10:21	15-Feb-2023 10:33	15-Feb-2023 10:59	15-Feb-2023 11:12
					EM2302832-097	EM2302832-098	EM2302832-099	EM2302832-100	EM2302832-101
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.07**	**0.22**	**0.24**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	**0.23**	**0.30**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.21**	**2.18**	**3.04**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.18**	**0.16**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.07**	**5.65**	**5.13**	<0.01	**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	**0.06**	**0.05**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.27**	**0.25**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.05**	**0.04**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.03**	**0.12**	**0.10**	<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	0939_MW4073_230215	0939_MW4068_220215	0939_MW4015_220215	0939_MW4060_230215	0939_MW4071_230215
				Sampling date / time	15-Feb-2023 08:44	15-Feb-2023 10:21	15-Feb-2023 10:33	15-Feb-2023 10:59	15-Feb-2023 11:12
Compound	CAS Number	LOR	Unit		EM2302832-097	EM2302832-098	EM2302832-099	EM2302832-100	EM2302832-101
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.40**	**8.96**	**9.31**	<0.01	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.28**	**7.83**	**8.17**	<0.01	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.38**	**8.55**	**8.85**	<0.01	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**85.9**	**92.3**	**93.0**	**95.7**	**93.7**
13C8-PFOA	----	0.02	%		**97.1**	**97.1**	**97.7**	**102**	**97.9**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4027_230215	0939_MW4059_230215	0939_MW4076_230215	0939_MW4064_230215	0939_MW4075_230216
				Sampling date / time	15-Feb-2023 12:05	15-Feb-2023 13:27	15-Feb-2023 13:28	15-Feb-2023 13:48	16-Feb-2023 08:19
					EM2302832-102	EM2302832-103	EM2302832-104	EM2302832-105	EM2302832-113
					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	**0.81**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.03**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.01**	<0.01	**5.10**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.10**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.03**	<0.01	**0.53**
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	**0.24**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.21**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.19**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.22**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4027_230215	0939_MW4059_230215	0939_MW4076_230215	0939_MW4064_230215	0939_MW4075_230216
				Sampling date / time	15-Feb-2023 12:05	15-Feb-2023 13:27	15-Feb-2023 13:28	15-Feb-2023 13:48	16-Feb-2023 08:19
					EM2302832-102	EM2302832-103	EM2302832-104	EM2302832-105	EM2302832-113
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.04**	<0.01	**9.43**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.04**	<0.01	**5.63**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.04**	<0.01	**8.30**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**86.5**	**85.6**	**94.8**	**87.1**	**88.1**
13C8-PFOA	----	0.02	%		**93.2**	**95.9**	**98.6**	**101**	**96.8**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4221_230216	0939_MW4222_230216	0939_MW4055_230216	0939_MW4053_230215	0939_QC108_230215
				Sampling date / time	16-Feb-2023 08:21	16-Feb-2023 08:22	15-Feb-2023 08:25	15-Feb-2023 08:26	16-Feb-2023 08:30
					EM2302832-125	EM2302832-126	EM2302832-127	EM2302832-128	EM2302832-130
					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	**0.05**	<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		<0.01	<0.01	<0.01	**0.40**	**0.07**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.91**	**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		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	<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	**0.03**	<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	0939_MW4221_230216	0939_MW4222_230216	0939_MW4055_230216	0939_MW4053_230215	0939_QC108_230215
				Sampling date / time	16-Feb-2023 08:21	16-Feb-2023 08:22	15-Feb-2023 08:25	15-Feb-2023 08:26	16-Feb-2023 08:30
Compound	CAS Number	LOR	Unit		EM2302832-125	EM2302832-126	EM2302832-127	EM2302832-128	EM2302832-130
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**1.51**	**0.27**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**1.31**	**0.27**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**1.42**	**0.27**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**84.2**	**99.7**	**95.5**	**96.4**	**92.9**
13C8-PFOA	----	0.02	%		**97.4**	**96.0**	**97.2**	**97.7**	**95.9**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4052_230115	0939_MW4069_230216	0939_MW4048_230216	0939_MW4001_230216	0939_MW4024_230216
				Sampling date / time	16-Feb-2023 08:31	16-Feb-2023 08:34	16-Feb-2023 08:45	16-Feb-2023 08:51	16-Feb-2023 10:46
					EM2302832-131	EM2302832-132	EM2302832-133	EM2302832-134	EM2302832-135
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.04**	**0.03**	**0.02**	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.06**	**0.03**	**0.02**	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.48**	**0.28**	**0.27**	**0.54**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.03**	<0.02	<0.02	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.99**	**0.51**	**0.91**	**0.47**
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	**0.06**	**0.05**	**0.04**	**0.08**
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	**0.03**	**0.03**	**0.04**	**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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4052_230115	0939_MW4069_230216	0939_MW4048_230216	0939_MW4001_230216	0939_MW4024_230216
				Sampling date / time	16-Feb-2023 08:31	16-Feb-2023 08:34	16-Feb-2023 08:45	16-Feb-2023 08:51	16-Feb-2023 10:46
					EM2302832-131	EM2302832-132	EM2302832-133	EM2302832-134	EM2302832-135
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**1.69**	**0.95**	**1.32**	**1.23**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**1.47**	**0.79**	**1.18**	**1.01**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**1.60**	**0.92**	**1.30**	**1.14**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.8**	**97.0**	**95.5**	**99.0**	**99.2**
13C8-PFOA	----	0.02	%		**96.1**	**94.4**	**94.1**	**96.4**	**94.9**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4023_230216	0939_QC109_230216	0939_MW4070_230215	0939_MW4035_230216	0939_MW4074_230216
				Sampling date / time	16-Feb-2023 10:49	16-Feb-2023 10:50	16-Feb-2023 10:53	16-Feb-2023 12:21	16-Feb-2023 13:25
					EM2302832-136	EM2302832-137	EM2302832-139	EM2302832-140	EM2302832-141
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	**0.04**	<0.02	**0.23**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.05**	**0.07**	<0.02	**0.22**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.72**	**0.76**	<0.01	**2.16**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.06**	**0.05**	<0.02	**0.19**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.59**	**0.55**	<0.01	**5.79**	**0.15**
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	**0.05**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.11**	**0.11**	<0.02	**0.24**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.03**	**0.03**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4023_230216	0939_QC109_230216	0939_MW4070_230215	0939_MW4035_230216	0939_MW4074_230216
				Sampling date / time	16-Feb-2023 10:49	16-Feb-2023 10:50	16-Feb-2023 10:53	16-Feb-2023 12:21	16-Feb-2023 13:25
					EM2302832-136	EM2302832-137	EM2302832-139	EM2302832-140	EM2302832-141
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.60**	**1.61**	<0.01	**9.03**	**0.15**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.31**	**1.31**	<0.01	**7.95**	**0.15**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.49**	**1.49**	<0.01	**8.62**	**0.15**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.8**	**90.3**	**93.9**	**98.4**	**89.0**
13C8-PFOA	----	0.02	%		**96.1**	**94.8**	**97.2**	**93.5**	**92.3**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4041_230216	0939_QC110_230216	0939_MW4037_230216	0939_MW4013_230216	0939_QC111_230216
				Sampling date / time	16-Feb-2023 13:53	16-Feb-2023 13:54	16-Feb-2023 14:40	16-Feb-2023 14:54	16-Feb-2023 14:56
					EM2302832-142	EM2302832-143	EM2302832-145	EM2302832-146	EM2302832-147
					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	**0.15**	**0.12**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.18**	**0.16**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.02**	**1.86**	**1.80**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.09**	**0.09**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**3.08**	**3.43**
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	**0.09**	**0.08**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.26**	**0.23**
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	<0.01	<0.01	**0.10**	**0.11**
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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4041_230216	0939_QC110_230216	0939_MW4037_230216	0939_MW4013_230216	0939_QC111_230216
				Sampling date / time	16-Feb-2023 13:53	16-Feb-2023 13:54	16-Feb-2023 14:40	16-Feb-2023 14:54	16-Feb-2023 14:56
					EM2302832-142	EM2302832-143	EM2302832-145	EM2302832-146	EM2302832-147
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.02**	**5.85**	**6.06**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.02**	**4.94**	**5.23**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.02**	**5.58**	**5.81**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.3**	**97.3**	**93.8**	**102**	**105**
13C8-PFOA	----	0.02	%		**96.5**	**99.0**	**97.1**	**95.3**	**94.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC407_230216	0939_QC113_230216	[redacted]	0939_QC406_230215	0939_QC306_230215
				Sampling date / time	16-Feb-2023 10:35	16-Feb-2023 10:37		15-Feb-2023 10:47	15-Feb-2023 10:47
Compound	CAS Number	LOR	Unit		EM2302832-149	EM2302832-151		EM2302832-155	EM2302832-156
					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
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**		<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.38**		<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		<0.01	**0.93**		<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
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05		<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC407_230216	0939_QC113_230216		0939_QC406_230215	0939_QC306_230215
				Sampling date / time	16-Feb-2023 10:35	16-Feb-2023 10:37		15-Feb-2023 10:47	15-Feb-2023 10:47
Compound	CAS Number	LOR	Unit		EM2302832-149	EM2302832-151		EM2302832-155	EM2302832-156
					Result	Result		Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05		<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05		<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02		<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02		<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05		<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05		<0.05	<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		<0.01	**1.46**		<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**1.31**		<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**1.39**		<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.1**	**84.9**		**84.1**	**86.7**
13C8-PFOA	----	0.02	%		**96.9**	**95.6**		**100**	**94.2**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC307_230216	0939_MW4045_230215	0939_QC501_230202	0939_QC502_230202	0939_QC503_230216
				Sampling date / time	16-Feb-2023 10:48	17-Feb-2023 10:50	02-Feb-2023 10:37	02-Feb-2023 10:41	16-Feb-2023 10:42
					EM2302832-157	EM2302832-158	EM2302832-159	EM2302832-160	EM2302832-161
					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	**0.06**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.20**	<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	0939_QC307_230216	0939_MW4045_230215	0939_QC501_230202	0939_QC502_230202	0939_QC503_230216
				Sampling date / time	16-Feb-2023 10:48	17-Feb-2023 10:50	02-Feb-2023 10:37	02-Feb-2023 10:41	16-Feb-2023 10:42
Compound	CAS Number	LOR	Unit		EM2302832-157	EM2302832-158	EM2302832-159	EM2302832-160	EM2302832-161
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.26**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.26**	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.26**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**84.8**	**80.3**	**83.3**	**78.6**	**82.8**
13C8-PFOA	----	0.02	%		**99.3**	**101**	**98.4**	**98.2**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC504_230216	----	----	----	----
				Sampling date / time	16-Feb-2023 10:43	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2302832-162	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC504_230216	----	----	----	----
				Sampling date / time	16-Feb-2023 10:43	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2302832-162	--------	--------	--------	--------
					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	%		**78.3**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.7**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2302832**	Page	: 1 of 20
Amendment	: **3**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 22-Feb-2023
C-O-C number	: 47609	Issue Date	: 09-Mar-2023
Sampler	[redacted]		
Site	: 0939_EDN		
Quote number	: SY/139/19 V3		
No. of samples received	: 151		
No. of samples analysed	: 131		

ilac-MRA NATA
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

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: 4887879)									
EM2302832-001	0939_MW2285_230130	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	13.7	13.8	0.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	12.3	12.4	0.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.05	1.08	3.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.44	1.47	1.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.58	0.61	5.1	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: 4887883)									
EM2302832-030	0939_MW2197_230123	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	160	158	1.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	353	328	7.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	18.1	17.9	1.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	30.9	29.8	3.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	15.4	14.6	5.5	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4887886)									
EM2302832-020	0939_MW2139_230130	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.14	0.0	0% - 50%
		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: 4887888)									
EM2302832-071	0939_MW4065_230201	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4887888) - continued									
EM2302832-071	0939_MW4065_230201	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: 4887892)									
EM2302832-100	0939_MW4060_230215	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: 4887900)									
EM2302832-146	0939_MW4013_230216	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.86	1.88	1.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.08	2.90	5.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.15	0.14	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	0.19	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.09	0.08	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: 4887901)									
EM2302832-013	0939_MW2175_230130	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.43	0.45	4.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.07	0.0	No Limit
		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	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4887879)									
EM2302832-001	0939_MW2285_230130	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.33	0.36	10.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	0.26	11.7	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.35	1.63	18.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	0.16	28.0	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	0.2	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4887883)									
EM2302832-030	0939_MW2197_230123	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	11.5	11.6	1.1	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: 4887883) - continued									
EM2302832-030	0939_MW2197_230123	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	7.02	6.74	4.1	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	37.6	36.6	2.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	5.47	5.25	4.2	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.10	0.10	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	2.0	2.1	0.0	0% - 50%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4887886)									
EM2302832-020	0939_MW2139_230130	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4887888)									
EM2302832-071	0939_MW4065_230201	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4887892)									
EM2302832-100	0939_MW4060_230215	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

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: 4887892) - continued									
EM2302832-100	0939_MW4060_230215	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: 4887900)									
EM2302832-146	0939_MW4013_230216	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	0.11	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.09	0.09	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.26	0.26	0.0	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: 4887901)									
EM2302832-013	0939_MW2175_230130	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	0.04	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
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4887879)									
EM2302832-001	0939_MW2285_230130	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: 4887879) - continued									
EM2302832-001	0939_MW2285_230130	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: 4887883)									
EM2302832-030	0939_MW2197_230123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.30	0.28	8.9	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4887886)									
EM2302832-020	0939_MW2139_230130	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: 4887888)									
EM2302832-071	0939_MW4065_230201	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: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4887888) - continued									
EM2302832-071	0939_MW4065_230201	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: 4887892)									
EM2302832-100	0939_MW4060_230215	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: 4887900)									
EM2302832-146	0939_MW4013_230216	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: 4887901)									
EM2302832-013	0939_MW2175_230130	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: 4887901) - continued									
EM2302832-013	0939_MW2175_230130	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: 4887879)									
EM2302832-001	0939_MW2285_230130	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: 4887883)									
EM2302832-030	0939_MW2197_230123	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	0.10	0.11	12.0	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: 4887886)									
EM2302832-020	0939_MW2139_230130	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: 4887888)									
EM2302832-071	0939_MW4065_230201	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: 4887888) - continued									
EM2302832-071	0939_MW4065_230201	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: 4887892)									
EM2302832-100	0939_MW4060_230215	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: 4887900)									
EM2302832-146	0939_MW4013_230216	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: 4887901)									
EM2302832-013	0939_MW2175_230130	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: 4887879)									
EM2302832-001	0939_MW2285_230130	EP231X: Sum of PFAS	----	0.01	µg/L	31.1	32.0	2.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	26.0	26.2	0.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	29.1	29.9	2.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 4887883)									
EM2302832-030	0939_MW2197_230123	EP231X: Sum of PFAS	----	0.01	µg/L	641	611	4.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	513	486	5.4	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: 4887883) - continued									
EM2302832-030	0939_MW2197_230123	EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	595	566	4.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 4887886)									
EM2302832-020	0939_MW2139_230130	EP231X: Sum of PFAS	----	0.01	µg/L	0.15	0.14	6.9	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.15	0.14	6.9	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.15	0.14	6.9	0% - 50%
EP231P: PFAS Sums (QC Lot: 4887888)									
EM2302832-071	0939_MW4065_230201	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: 4887892)									
EM2302832-100	0939_MW4060_230215	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: 4887900)									
EM2302832-146	0939_MW4013_230216	EP231X: Sum of PFAS	----	0.01	µg/L	5.85	5.69	2.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.94	4.78	3.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.58	5.42	2.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 4887901)									
EM2302832-013	0939_MW2175_230130	EP231X: Sum of PFAS	----	0.01	µg/L	0.66	0.67	1.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.51	0.52	1.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.60	0.61	1.7	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887879)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	90.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 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	87.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	89.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887883)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	101	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	88.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 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	104	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	87.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887886)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	91.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887888)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	92.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	97.5	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	90.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.5	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887892)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	98.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.9	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	93.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	98.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.1	53.0	142

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887900)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	97.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	101	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	97.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	90.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	97.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887901)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	96.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	102	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	97.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887879)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	91.4	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	95.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	88.5	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	75.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.5	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	105	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887883)								
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	97.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.0	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	93.7	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887886)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887886) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	86.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	86.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.8	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: 4887888)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	99.2	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	90.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	87.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	83.7	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.7	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.3	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	111	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887892)								
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	93.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	99.0	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	99.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	118	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887900)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	115	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887900) - continued								
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	94.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	91.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.5	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: 4887901)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	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	93.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	89.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	87.1	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.5	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	130	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887879)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	91.6	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	108	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	89.4	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	94.3	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887883)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	130	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	126	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887883) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.0	70.0	130
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	85.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887886)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	96.7	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	109	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.4	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.6	70.0	130
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	79.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887888)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	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	100	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	89.0	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	100	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887892)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	130	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	130	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	126	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

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887892) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887900)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	128	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	121	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.4	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.0	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	85.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887901)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	98.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	86.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	90.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	89.3	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	84.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887879)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	91.5	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	87.4	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	112	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	72.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887883)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	99.3	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	107	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	104	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	96.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887886)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887886) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	98.3	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	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	95.6	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	77.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887888)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	93.7	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	93.2	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	112	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	72.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887892)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	105	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	0.242 µg/L	71.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887900)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	101	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	103	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	81.6	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887901)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	90.3	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	92.5	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	92.9	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	81.0	70.0	130
EP231P: PFAS Sums (QCLot: 4887879)								
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: 4887883)								
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: 4887886)								
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	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231P: PFAS Sums (QCLot: 4887886) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4887888)								
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: 4887892)								
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: 4887900)								
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: 4887901)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887879)							
EM2302832-006	0939_MW2183_230130	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	90.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	81.9	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	93.7	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	87.1	53.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4887883)							
EM2302832-041	0939_MW2490_230131	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	114	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887879)							
EM2302832-006	0939_MW2183_230130	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 67.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	87.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	91.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	83.9	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	75.4	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	79.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	73.1	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.2	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4887883)							
EM2302832-041	0939_MW2490_230131	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	111	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	97.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	78.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	82.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	93.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	77.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	99.1	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: 4887879)							
EM2302832-006	0939_MW2183_230130	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.6	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	75.5	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	81.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	87.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	89.1	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	77.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4887883)							
EM2302832-041	0939_MW2490_230131	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	75.9	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	94.9	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	96.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	94.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	73.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887879)							
EM2302832-006	0939_MW2183_230130	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	106	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	95.2	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	0.242 µg/L	# 56.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4887883)							
EM2302832-041	0939_MW2490_230131	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	0.238 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	110	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	78.1	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2302832**	Page	: 1 of 15
Amendment	: **3**		
Client	[redacted]		
Contact			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Site	: 0939_EDN	Issue Date	: 09-Mar-2023
Sampler	: [redacted]	No. of samples received	: 151
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	No. of samples analysed	: 131

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EM2302832--041	0939_MW2490_230131	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--006	0939_MW2183_230130	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--006	0939_MW2183_230130	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--006	0939_MW2183_230130	**Perfluorobutanoic acid (PFBA)**	375-22-4	67.3 %	73.0-129%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2302832--041	0939_MW2490_230131	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--041	0939_MW2490_230131	**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	EM2302832--041	0939_MW2490_230131	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2302832--006	0939_MW2183_230130	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	56.0 %	70.0-130%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	7	131	5.34	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	131	1.53	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4218_230201, 0939_MW4061_230101, 0939_MW4065_230201, 0939_MW2499_230201, 0939_MW4020__230201, 0939_MW4022_230201, 0939_MW4009_230201, 0939_MW4072_230201, 0939_MW4220_230201, 0939_MW4003_230201, 0939_QC105_230201, 0939_MW4219_230201, 0939_QC303_230201, 0939_QC403_230201, 0939_MW2411_230201	**01-Feb-2023**	**23-Feb-2023**	31-Jul-2023	✓	**24-Feb-2023**	31-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC501_230202, 0939_QC502_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**23-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC106_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**24-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4223_230203, 0939_QC304_230202, 0939_QC404_230202, 0939_QC305_230203, 0939_QC405_230203	**03-Feb-2023**	**23-Feb-2023**	02-Aug-2023	✓	**24-Feb-2023**	02-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC406_230215, 0939_QC306_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**23-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
0939_MW4078_230215,	0939_MW4058_230215,	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**24-Feb-2023**	14-Aug-2023	✓
0939_MW4079_230215,	0939_MW4066_230215,							
0939_MW4057_230215,	0939_MW4073_230215,							
0939_MW4068_220215,	0939_MW4015_220215,							
0939_MW4060_230215,	0939_MW4071_230215,							
0939_MW4027_230215,	0939_MW4059_230215,							
0939_MW4076_230215,	0939_MW4064_230215,							
0939_MW4055_230216,	0939_MW4053_230215							
HDPE (no PTFE) (EP231X)								
0939_QC113_230216,	[redacted]	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**23-Feb-2023**	15-Aug-2023	✓
0939_QC307_230216,	0939_QC503_230216,							
0939_QC504_230216								
HDPE (no PTFE) (EP231X)								
0939_MW4075_230216,	0939_MW4221_230216,	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**24-Feb-2023**	15-Aug-2023	✓
0939_MW4222_230216,	0939_QC108_230215,							
0939_MW4052_230115,	0939_MW4069_230216,							
0939_MW4048_230216,	0939_MW4001_230216,							
0939_MW4024_230216,	0939_MW4023_230216,							
0939_QC109_230216,	0939_MW4070_230215,							
0939_MW4035_230216,	0939_MW4074_230216,							
0939_MW4041_230216,	0939_QC110_230216,							
0939_MW4037_230216,	0939_MW4013_230216,							
0939_QC111_230216,	0939_QC407_230216							
HDPE (no PTFE) (EP231X)								
0939_MW4045_230215		**17-Feb-2023**	**23-Feb-2023**	16-Aug-2023	✓	**23-Feb-2023**	16-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW2285_230130,	0939_MW2185_220130,	**30-Jan-2023**	**22-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
0939_MW2281_230130,	0939_MW2286_230130,							
0939_MW2184_230130,	0939_MW2183_230130,							
0939_MW2182_230130,	0939_MW2275_230130,							
0939_MW2180_230130,	0939_MW2177_230130,							
0939_QC101_230130,	0939_MW2176_230130,							
0939_MW2173_230130,	0939_MW2172_230130,							
0939_MW2145_230130,	0939_MW2129_230130,							
0939_MW2169_230130,	0939_MW2166_230130,							
0939_MW2270_220725,	0939_MW2200_230130,							
0939_MW2120_230130,	0939_MW2201_230130,							
0939_MW2202_230130,	0939_MW2203_230130,							
0939_QC102_230130,	0939_MW2197_230123,							
0939_MW2193_230123,	0939_MW2194_230130,							
0939_MW2188_230130								
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0939_MW2175_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2139_230130, 0939_QC401_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**24-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2358_230130, 0939_MW2126_230130, 0939_MW2150_230130, 0939_MW2394_230130, 0939_MW2112_230130, 0939_MW2162_230130, 0939_MW2149_230130, 0939_MW2490_230131, 0939_MW2130_230131, 0939_QC103_230131, 0939_MW2209_230131	**31-Jan-2023**	**22-Feb-2023**	30-Jul-2023	✓	**23-Feb-2023**	30-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2528_230131, 0939_MW2157_230131, 0939_MW2114_230131, 0939_MW2131_230131, 0939_MW2210_230131, 0939_MW2148_230131, 0939_MW2284_230131, 0939_MW2158_230131, 0939_MW2272_230131, 0939_MW2218_230131, 0939_MW2134_230131, 0939_MW2501_230131, 0661_MW2325_230131, 0939_MW2116_230131, 0939_MW2216_230131, 0939_MW2135_230131, 0939_QC104_230131, 0939_MW2159_230131, 0939_QC301_230130, 0939_QC302_230131, 0939_QC402_230131	**31-Jan-2023**	**23-Feb-2023**	30-Jul-2023	✓	**24-Feb-2023**	30-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0939_MW4218_230201,	0939_MW4061_230101,	**01-Feb-2023**	**23-Feb-2023**	31-Jul-2023	✓	**24-Feb-2023**	31-Jul-2023	✓
0939_MW4065_230201,	0939_MW2499_230201,							
0939_MW4020__230201,	0939_MW4022_230201,							
0939_MW4009_230201,	0939_MW4072_230201,							
0939_MW4220_230201,	0939_MW4003_230201,							
0939_QC105_230201,	0939_MW4219_230201,							
0939_QC303_230201,	0939_QC403_230201,							
0939_MW2411_230201								
HDPE (no PTFE) (EP231X)								
0939_QC501_230202,	0939_QC502_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**23-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_QC106_230202		**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**24-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW4223_230203,	0939_QC304_230202,	**03-Feb-2023**	**23-Feb-2023**	02-Aug-2023	✓	**24-Feb-2023**	02-Aug-2023	✓
0939_QC404_230202,	0939_QC305_230203,							
0939_QC405_230203								
HDPE (no PTFE) (EP231X)								
0939_QC406_230215,	0939_QC306_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**23-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW4078_230215,	0939_MW4058_230215,	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**24-Feb-2023**	14-Aug-2023	✓
0939_MW4079_230215,	0939_MW4066_230215,							
0939_MW4057_230215,	0939_MW4073_230215,							
0939_MW4068_220215,	0939_MW4015_220215,							
0939_MW4060_230215,	0939_MW4071_230215,							
0939_MW4027_230215,	0939_MW4059_230215,							
0939_MW4076_230215,	0939_MW4064_230215,							
0939_MW4055_230216,	0939_MW4053_230215							
HDPE (no PTFE) (EP231X)								
0939_QC113_230216,	[redacted]	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**23-Feb-2023**	15-Aug-2023	✓
0939_QC307_230216,	0939_QC503_230216,							
0939_QC504_230216								
HDPE (no PTFE) (EP231X)								
0939_MW4075_230216,	0939_MW4221_230216,	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**24-Feb-2023**	15-Aug-2023	✓
0939_MW4222_230216,	0939_QC108_230215,							
0939_MW4052_230115,	0939_MW4069_230216,							
0939_MW4048_230216,	0939_MW4001_230216,							
0939_MW4024_230216,	0939_MW4023_230216,							
0939_QC109_230216,	0939_MW4070_230215,							
0939_MW4035_230216,	0939_MW4074_230216,							
0939_MW4041_230216,	0939_QC110_230216,							
0939_MW4037_230216,	0939_MW4013_230216,							
0939_QC111_230216,	0939_QC407_230216							

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)								
0939_MW4045_230215		**17-Feb-2023**	**23-Feb-2023**	16-Aug-2023	✓	**23-Feb-2023**	16-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW2285_230130,	0939_MW2185_220130,	**30-Jan-2023**	**22-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
0939_MW2281_230130,	0939_MW2286_230130,							
0939_MW2184_230130,	0939_MW2183_230130,							
0939_MW2182_230130,	0939_MW2275_230130,							
0939_MW2180_230130,	0939_MW2177_230130,							
0939_QC101_230130,	0939_MW2176_230130,							
0939_MW2173_230130,	0939_MW2172_230130,							
0939_MW2145_230130,	0939_MW2129_230130,							
0939_MW2169_230130,	0939_MW2166_230130,							
0939_MW2270_220725,	0939_MW2200_230130,							
0939_MW2120_230130,	0939_MW2201_230130,							
0939_MW2202_230130,	0939_MW2203_230130,							
0939_QC102_230130,	0939_MW2197_230123,							
0939_MW2193_230123,	0939_MW2194_230130,							
0939_MW2188_230130								
HDPE (no PTFE) (EP231X)								
0939_MW2175_230130		**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW2139_230130,	0939_QC401_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**24-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW2358_230130,	0939_MW2126_230130,	**31-Jan-2023**	**22-Feb-2023**	30-Jul-2023	✓	**23-Feb-2023**	30-Jul-2023	✓
0939_MW2150_230130,	0939_MW2394_230130,							
0939_MW2112_230130,	0939_MW2162_230130,							
0939_MW2149_230130,	0939_MW2490_230131,							
0939_MW2130_230131,	0939_QC103_230131,							
0939_MW2209_230131								
HDPE (no PTFE) (EP231X)								
0939_MW2528_230131,	0939_MW2157_230131,	**31-Jan-2023**	**23-Feb-2023**	30-Jul-2023	✓	**24-Feb-2023**	30-Jul-2023	✓
0939_MW2114_230131,	0939_MW2131_230131,							
0939_MW2210_230131,	0939_MW2148_230131,							
0939_MW2284_230131,	0939_MW2158_230131,							
0939_MW2272_230131,	0939_MW2218_230131,							
0939_MW2134_230131,	0939_MW2501_230131,							
0661_MW2325_230131,	0939_MW2116_230131,							
0939_MW2216_230131,	0939_MW2135_230131,							
0939_QC104_230131,	0939_MW2159_230131,							
0939_QC301_230130,	0939_QC302_230131,							
0939_QC402_230131								

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) 0939_MW4218_230201, 0939_MW4061_230101, 0939_MW2499_230201, 0939_MW4065_230201, 0939_MW4020__230201, 0939_MW4022_230201, 0939_MW4009_230201, 0939_MW4072_230201, 0939_MW4220_230201, 0939_MW4003_230201, 0939_QC105_230201, 0939_MW4219_230201, 0939_QC303_230201, 0939_QC403_230201, 0939_MW2411_230201	**01-Feb-2023**	**23-Feb-2023**	31-Jul-2023	✓	**24-Feb-2023**	31-Jul-2023	✓
HDPE (no PTFE) (EP231X) 0939_QC501_230202, 0939_QC502_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**23-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_QC106_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**24-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW4223_230203, 0939_QC304_230202, 0939_QC404_230202, 0939_QC305_230203, 0939_QC405_230203	**03-Feb-2023**	**23-Feb-2023**	02-Aug-2023	✓	**24-Feb-2023**	02-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_QC406_230215, 0939_QC306_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**23-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW4078_230215, 0939_MW4058_230215, 0939_MW4079_230215, 0939_MW4066_230215, 0939_MW4057_230215, 0939_MW4073_230215, 0939_MW4068_220215, 0939_MW4015_220215, 0939_MW4060_230215, 0939_MW4071_230215, 0939_MW4027_230215, 0939_MW4059_230215, 0939_MW4076_230215, 0939_MW4064_230215, 0939_MW4055_230216, 0939_MW4053_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**24-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_QC113_230216, [redacted] 0939_QC503_230216, 0939_QC307_230216, 0939_QC504_230216	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**23-Feb-2023**	15-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW4075_230216, 0939_MW4221_230216, 0939_MW4222_230216, 0939_QC108_230215, 0939_MW4052_230115, 0939_MW4069_230216, 0939_MW4048_230216, 0939_MW4001_230216, 0939_MW4024_230216, 0939_MW4023_230216, 0939_QC109_230216, 0939_MW4070_230215, 0939_MW4035_230216, 0939_MW4074_230216, 0939_MW4041_230216, 0939_QC110_230216, 0939_MW4037_230216, 0939_MW4013_230216, 0939_QC111_230216, 0939_QC407_230216	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**24-Feb-2023**	15-Aug-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides - Continued							
HDPE (no PTFE) (EP231X)							
0939_MW4045_230215	**17-Feb-2023**	**23-Feb-2023**	16-Aug-2023	✓	**23-Feb-2023**	16-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2285_230130, 0939_MW2185_220130, 0939_MW2281_230130, 0939_MW2286_230130, 0939_MW2184_230130, 0939_MW2183_230130, 0939_MW2182_230130, 0939_MW2275_230130, 0939_MW2180_230130, 0939_MW2177_230130, 0939_QC101_230130, 0939_MW2176_230130, 0939_MW2173_230130, 0939_MW2172_230130, 0939_MW2145_230130, 0939_MW2129_230130, 0939_MW2169_230130, 0939_MW2166_230130, 0939_MW2270_220725, 0939_MW2200_230130, 0939_MW2120_230130, 0939_MW2201_230130, 0939_MW2202_230130, 0939_MW2203_230130, 0939_QC102_230130, 0939_MW2197_230123, 0939_MW2193_230123, 0939_MW2194_230130, 0939_MW2188_230130	**30-Jan-2023**	**22-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2175_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2139_230130, 0939_QC401_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**24-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2358_230130, 0939_MW2126_230130, 0939_MW2150_230130, 0939_MW2394_230130, 0939_MW2112_230130, 0939_MW2162_230130, 0939_MW2149_230130, 0939_MW2490_230131, 0939_MW2130_230131, 0939_QC103_230131, 0939_MW2209_230131	**31-Jan-2023**	**22-Feb-2023**	30-Jul-2023	✓	**23-Feb-2023**	30-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2528_230131, 0939_MW2157_230131, 0939_MW2114_230131, 0939_MW2131_230131, 0939_MW2210_230131, 0939_MW2148_230131, 0939_MW2284_230131, 0939_MW2158_230131, 0939_MW2272_230131, 0939_MW2218_230131, 0939_MW2134_230131, 0939_MW2501_230131, 0661_MW2325_230131, 0939_MW2116_230131, 0939_MW2216_230131, 0939_MW2135_230131, 0939_QC104_230131, 0939_MW2159_230131, 0939_QC301_230130, 0939_QC302_230131, 0939_QC402_230131	**31-Jan-2023**	**23-Feb-2023**	30-Jul-2023	✓	**24-Feb-2023**	30-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0939_MW4218_230201,	0939_MW4061_230101,	**01-Feb-2023**	**23-Feb-2023**	31-Jul-2023	✓	**24-Feb-2023**	31-Jul-2023	✓
0939_MW4065_230201,	0939_MW2499_230201,							
0939_MW4020__230201,	0939_MW4022_230201,							
0939_MW4009_230201,	0939_MW4072_230201,							
0939_MW4220_230201,	0939_MW4003_230201,							
0939_QC105_230201,	0939_MW4219_230201,							
0939_QC303_230201,	0939_QC403_230201,							
0939_MW2411_230201								
HDPE (no PTFE) (EP231X)								
0939_QC501_230202,	0939_QC502_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**23-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_QC106_230202		**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**24-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW4223_230203,	0939_QC304_230202,	**03-Feb-2023**	**23-Feb-2023**	02-Aug-2023	✓	**24-Feb-2023**	02-Aug-2023	✓
0939_QC404_230202,	0939_QC305_230203,							
0939_QC405_230203								
HDPE (no PTFE) (EP231X)								
0939_QC406_230215,	0939_QC306_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**23-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X)								
0939_MW4078_230215,	0939_MW4058_230215,	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**24-Feb-2023**	14-Aug-2023	✓
0939_MW4079_230215,	0939_MW4066_230215,							
0939_MW4057_230215,	0939_MW4073_230215,							
0939_MW4068_220215,	0939_MW4015_220215,							
0939_MW4060_230215,	0939_MW4071_230215,							
0939_MW4027_230215,	0939_MW4059_230215,							
0939_MW4076_230215,	0939_MW4064_230215,							
0939_MW4055_230216,	0939_MW4053_230215							
HDPE (no PTFE) (EP231X)								
0939_QC113_230216,	[redacted]	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**23-Feb-2023**	15-Aug-2023	✓
0939_QC307_230216,	0939_QC503_230216,							
0939_QC504_230216								
HDPE (no PTFE) (EP231X)								
0939_MW4075_230216,	0939_MW4221_230216,	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**24-Feb-2023**	15-Aug-2023	✓
0939_MW4222_230216,	0939_QC108_230215,							
0939_MW4052_230115,	0939_MW4069_230216,							
0939_MW4048_230216,	0939_MW4001_230216,							
0939_MW4024_230216,	0939_MW4023_230216,							
0939_QC109_230216,	0939_MW4070_230215,							
0939_MW4035_230216,	0939_MW4074_230216,							
0939_MW4041_230216,	0939_QC110_230216,							
0939_MW4037_230216,	0939_MW4013_230216,							
0939_QC111_230216,	0939_QC407_230216							

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)							
0939_MW4045_230215	**17-Feb-2023**	**23-Feb-2023**	16-Aug-2023	✓	**23-Feb-2023**	16-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2285_230130, 0939_MW2185_220130, 0939_MW2281_230130, 0939_MW2286_230130, 0939_MW2184_230130, 0939_MW2183_230130, 0939_MW2182_230130, 0939_MW2275_230130, 0939_MW2180_230130, 0939_MW2177_230130, 0939_QC101_230130, 0939_MW2176_230130, 0939_MW2173_230130, 0939_MW2172_230130, 0939_MW2145_230130, 0939_MW2129_230130, 0939_MW2169_230130, 0939_MW2166_230130, 0939_MW2270_220725, 0939_MW2200_230130, 0939_MW2120_230130, 0939_MW2201_230130, 0939_MW2202_230130, 0939_MW2203_230130, 0939_QC102_230130, 0939_MW2197_230123, 0939_MW2193_230123, 0939_MW2194_230130, 0939_MW2188_230130	**30-Jan-2023**	**22-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2175_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2139_230130, 0939_QC401_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**24-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2358_230130, 0939_MW2126_230130, 0939_MW2150_230130, 0939_MW2394_230130, 0939_MW2112_230130, 0939_MW2162_230130, 0939_MW2149_230130, 0939_MW2490_230131, 0939_MW2130_230131, 0939_QC103_230131, 0939_MW2209_230131	**31-Jan-2023**	**22-Feb-2023**	30-Jul-2023	✓	**23-Feb-2023**	30-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW2528_230131, 0939_MW2157_230131, 0939_MW2114_230131, 0939_MW2131_230131, 0939_MW2210_230131, 0939_MW2148_230131, 0939_MW2284_230131, 0939_MW2158_230131, 0939_MW2272_230131, 0939_MW2218_230131, 0939_MW2134_230131, 0939_MW2501_230131, 0661_MW2325_230131, 0939_MW2116_230131, 0939_MW2216_230131, 0939_MW2135_230131, 0939_QC104_230131, 0939_MW2159_230131, 0939_QC301_230130, 0939_QC302_230131, 0939_QC402_230131	**31-Jan-2023**	**23-Feb-2023**	30-Jul-2023	✓	**24-Feb-2023**	30-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW4218_230201, 0939_MW4061_230101, 0939_MW4065_230201, 0939_MW2499_230201, 0939_MW4020__230201, 0939_MW4022_230201, 0939_MW4009_230201, 0939_MW4072_230201, 0939_MW4220_230201, 0939_MW4003_230201, 0939_QC105_230201, 0939_MW4219_230201, 0939_QC303_230201, 0939_QC403_230201, 0939_MW2411_230201	**01-Feb-2023**	**23-Feb-2023**	31-Jul-2023	✓	**24-Feb-2023**	31-Jul-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC501_230202, 0939_QC502_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**23-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC106_230202	**02-Feb-2023**	**23-Feb-2023**	01-Aug-2023	✓	**24-Feb-2023**	01-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4223_230203, 0939_QC304_230202, 0939_QC404_230202, 0939_QC305_230203, 0939_QC405_230203	**03-Feb-2023**	**23-Feb-2023**	02-Aug-2023	✓	**24-Feb-2023**	02-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC406_230215, 0939_QC306_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**23-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4078_230215, 0939_MW4058_230215, 0939_MW4079_230215, 0939_MW4066_230215, 0939_MW4057_230215, 0939_MW4073_230215, 0939_MW4068_220215, 0939_MW4015_220215, 0939_MW4060_230215, 0939_MW4071_230215, 0939_MW4027_230215, 0939_MW4059_230215, 0939_MW4076_230215, 0939_MW4064_230215, 0939_MW4055_230216, 0939_MW4053_230215	**15-Feb-2023**	**23-Feb-2023**	14-Aug-2023	✓	**24-Feb-2023**	14-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC113_230216, [redacted], 0939_QC307_230216, 0939_QC503_230216, 0939_QC504_230216	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**23-Feb-2023**	15-Aug-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4075_230216, 0939_MW4221_230216, 0939_MW4222_230216, 0939_QC108_230215, 0939_MW4052_230115, 0939_MW4069_230216, 0939_MW4048_230216, 0939_MW4001_230216, 0939_MW4024_230216, 0939_MW4023_230216, 0939_QC109_230216, 0939_MW4070_230215, 0939_MW4035_230216, 0939_MW4074_230216, 0939_MW4041_230216, 0939_QC110_230216, 0939_MW4037_230216, 0939_MW4013_230216, 0939_QC111_230216, 0939_QC407_230216	**16-Feb-2023**	**23-Feb-2023**	15-Aug-2023	✓	**24-Feb-2023**	15-Aug-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums - Continued							
HDPE (no PTFE) (EP231X) 0939_MW4045_230215	**17-Feb-2023**	**23-Feb-2023**	16-Aug-2023	✓	**23-Feb-2023**	16-Aug-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW2285_230130, 0939_MW2185_220130, 0939_MW2281_230130, 0939_MW2286_230130, 0939_MW2184_230130, 0939_MW2183_230130, 0939_MW2182_230130, 0939_MW2275_230130, 0939_MW2180_230130, 0939_MW2177_230130, 0939_QC101_230130, 0939_MW2176_230130, 0939_MW2173_230130, 0939_MW2172_230130, 0939_MW2145_230130, 0939_MW2129_230130, 0939_MW2169_230130, 0939_MW2166_230130, 0939_MW2270_220725, 0939_MW2200_230130, 0939_MW2120_230130, 0939_MW2201_230130, 0939_MW2202_230130, 0939_MW2203_230130, 0939_QC102_230130, 0939_MW2197_230123, 0939_MW2193_230123, 0939_MW2194_230130, 0939_MW2188_230130	**30-Jan-2023**	**22-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW2175_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**23-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW2139_230130, 0939_QC401_230130	**30-Jan-2023**	**23-Feb-2023**	29-Jul-2023	✓	**24-Feb-2023**	29-Jul-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW2358_230130, 0939_MW2126_230130, 0939_MW2150_230130, 0939_MW2394_230130, 0939_MW2112_230130, 0939_MW2162_230130, 0939_MW2149_230130, 0939_MW2490_230131, 0939_MW2130_230131, 0939_QC103_230131, 0939_MW2209_230131	**31-Jan-2023**	**22-Feb-2023**	30-Jul-2023	✓	**23-Feb-2023**	30-Jul-2023	✓
HDPE (no PTFE) (EP231X) 0939_MW2528_230131, 0939_MW2157_230131, 0939_MW2114_230131, 0939_MW2131_230131, 0939_MW2210_230131, 0939_MW2148_230131, 0939_MW2284_230131, 0939_MW2158_230131, 0939_MW2272_230131, 0939_MW2218_230131, 0939_MW2134_230131, 0939_MW2501_230131, 0661_MW2325_230131, 0939_MW2116_230131, 0939_MW2216_230131, 0939_MW2135_230131, 0939_QC104_230131, 0939_MW2159_230131, 0939_QC301_230130, 0939_QC302_230131, 0939_QC402_230131	**31-Jan-2023**	**23-Feb-2023**	30-Jul-2023	✓	**24-Feb-2023**	30-Jul-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	131	**5.34**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	131	**5.34**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	131	**5.34**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	131	**1.53**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2303626**		
Amendment	: **1**		
Client	[redacted]		
Contact			
Address			
E-mail			
Telephone			
Facsimile			
Project	: SA_0939_PFASOMP_23	Page	: 1 of 3
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 21-Feb-2023 15:40	Issue Date	: 09-Mar-2023
Client Requested Due Date	: 08-Mar-2023	Scheduled Reporting Date	: **08-Mar-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 18 / 18

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- This is a rebatch of EM2302832
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail. All analysis results are as per the report.
- 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.

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)
EM2303626-001	02-Feb-2023 11:22	0939_SW012_230202	✓
EM2303626-002	02-Feb-2023 11:41	0939_SW006_230202	✓
EM2303626-003	02-Feb-2023 08:30	0939_SW009_230202	✓
EM2303626-004	02-Feb-2023 08:52	0939_SW010_230202	✓
EM2303626-005	02-Feb-2023 11:51	0939_SW018_230202	✓
EM2303626-006	02-Feb-2023 10:07	0939_SW054_230202	✓
EM2303626-007	02-Feb-2023 11:57	0939_SW017_230202	✓
EM2303626-008	02-Feb-2023 12:12	0939_SW021_230202	✓
EM2303626-009	02-Feb-2023 07:54	0939_SW028_230202	✓
EM2303626-010	02-Feb-2023 07:38	0939_SW029_230202	✓
EM2303626-011	02-Feb-2023 08:10	0939_SW032_230202	✓
EM2303626-012	02-Feb-2023 11:14	0939_SW050_230202	✓
EM2303626-013	02-Feb-2023 08:49	0939_SW058_230202	✓
EM2303626-014	02-Feb-2023 09:54	0939_SW059_230202	✓
EM2303626-015	02-Feb-2023 09:39	0939_SW062_230202	✓
EM2303626-016	02-Feb-2023 09:14	0939_SW078_230202	✓
EM2303626-017	02-Feb-2023 11:52	0939_QC107_230202	✓

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

Adelaide

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303626**	Page	: 1 of 11
Amendment	: **1**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023 15:40
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 02-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023 13:36
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 18		
No. of samples analysed	: 18		

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*
Xing Lin	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 QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- This is a rebatch of EM2302832
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail. All analysis results are as per the report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_SW012_230202	0939_SW006_230202	0939_SW009_230202	0939_SW010_230202	0939_SW018_230202
				Sampling date / time	02-Feb-2023 11:22	02-Feb-2023 11:41	02-Feb-2023 08:30	02-Feb-2023 08:52	02-Feb-2023 11:51
					EM2303626-001	EM2303626-002	EM2303626-003	EM2303626-004	EM2303626-005
					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		**0.21**	**0.03**	**0.01**	**0.08**	<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		**0.26**	**0.17**	**0.04**	**0.18**	**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	<0.1
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		**0.06**	<0.02	<0.02	**0.04**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	**0.01**	<0.01	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW012_230202	0939_SW006_230202	0939_SW009_230202	0939_SW010_230202	0939_SW018_230202
				Sampling date / time	02-Feb-2023 11:22	02-Feb-2023 11:41	02-Feb-2023 08:30	02-Feb-2023 08:52	02-Feb-2023 11:51
Compound	CAS Number	LOR	Unit		EM2303626-001	EM2303626-002	EM2303626-003	EM2303626-004	EM2303626-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<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		**0.57**	**0.21**	**0.05**	**0.32**	**0.08**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.47**	**0.20**	**0.05**	**0.26**	**0.08**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.57**	**0.21**	**0.05**	**0.32**	**0.08**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.3**	**96.3**	**97.2**	**93.0**	**93.7**
13C8-PFOA	----	0.02	%		**92.4**	**92.0**	**91.2**	**92.4**	**91.5**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW054_230202	0939_SW017_230202	0939_SW021_230202	0939_SW028_230202	0939_SW029_230202
				Sampling date / time	02-Feb-2023 10:07	02-Feb-2023 11:57	02-Feb-2023 12:12	02-Feb-2023 07:54	02-Feb-2023 07:38
Compound	CAS Number	LOR	Unit		EM2303626-006	EM2303626-007	EM2303626-008	EM2303626-009	EM2303626-010
					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		**0.13**	<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		**0.16**	**0.02**	**0.02**	<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		**0.04**	<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		**0.02**	<0.01	**0.01**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW054_230202	0939_SW017_230202	0939_SW021_230202	0939_SW028_230202	0939_SW029_230202
				Sampling date / time	02-Feb-2023 10:07	02-Feb-2023 11:57	02-Feb-2023 12:12	02-Feb-2023 07:54	02-Feb-2023 07:38
Compound	CAS Number	LOR	Unit		EM2303626-006	EM2303626-007	EM2303626-008	EM2303626-009	EM2303626-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<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		**0.37**	**0.02**	**0.06**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.29**	**0.02**	**0.02**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.37**	**0.02**	**0.06**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**84.9**	**90.8**	**89.5**	**95.1**	**87.3**
13C8-PFOA	----	0.02	%		**89.8**	**91.1**	**92.3**	**87.3**	**89.6**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_SW032_230202	0939_SW050_230202	0939_SW058_230202	0939_SW059_230202	0939_SW062_230202
				Sampling date / time	02-Feb-2023 08:10	02-Feb-2023 11:14	02-Feb-2023 08:49	02-Feb-2023 09:54	02-Feb-2023 09:39
					EM2303626-011	EM2303626-012	EM2303626-013	EM2303626-014	EM2303626-015
					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	**0.03**
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	**0.12**	**0.08**	<0.01	**0.16**
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		**0.03**	**0.19**	**0.16**	**0.02**	**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		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.03**	**0.04**	<0.02	**0.03**
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**	**0.02**	<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	0939_SW032_230202	0939_SW050_230202	0939_SW058_230202	0939_SW059_230202	0939_SW062_230202
				Sampling date / time	02-Feb-2023 08:10	02-Feb-2023 11:14	02-Feb-2023 08:49	02-Feb-2023 09:54	02-Feb-2023 09:39
Compound	CAS Number	LOR	Unit		EM2303626-011	EM2303626-012	EM2303626-013	EM2303626-014	EM2303626-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	**0.36**	**0.30**	**0.02**	**0.38**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	**0.31**	**0.24**	**0.02**	**0.28**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	**0.36**	**0.30**	**0.02**	**0.36**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.4**	**87.6**	**89.0**	**93.1**	**91.6**
13C8-PFOA	----	0.02	%		**89.7**	**90.2**	**92.0**	**88.9**	**93.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW078_230202	0939_QC107_230202	[redacted]	----	----
				Sampling date / time	02-Feb-2023 09:14	02-Feb-2023 11:52		----	----
Compound	CAS Number	LOR	Unit		EM2303626-016	EM2303626-017		--------	--------
					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	**0.07**		----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02		----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1		----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02		----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02		----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02		----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01		----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02		----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02		----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02		----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02		----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02		----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05		----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02		----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05		----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05		----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW078_230202	0939_QC107_230202	[redacted]	----	----
				Sampling date / time	02-Feb-2023 09:14	02-Feb-2023 11:52		----	----
Compound	CAS Number	LOR	Unit		EM2303626-016	EM2303626-017		--------	--------
					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	**0.07**		----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.07**		----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.07**		----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.0**	**89.2**		----	----
13C8-PFOA	----	0.02	%		**93.3**	**92.9**		----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2303626**	Page	: 1 of 4
Amendment	: **1**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 02-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 18		
No. of samples analysed	: 18		

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*
Xing Lin	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%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4905805)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	90.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	90.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	90.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	89.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4905805)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.4	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.1	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	97.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.3	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.0	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4905805)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.7	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.7	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.9	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.2	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	105	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.9	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: 4905805)								
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	96.6	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	99.8	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4905805) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	70.2	70.0	130
EP231P: PFAS Sums (QCLot: 4905805)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303626**	Page	: 1 of 6
Amendment	: **1**		
Client	[redacted]		
Contact			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Site	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]	No. of samples received	: 18
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	No. of samples analysed	: 18

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	20	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	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: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation* ***Date extracted***	*Due for extraction*	*Evaluation*	*Analysis* ***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_SW012_230202, 0939_SW006_230202, 0939_SW009_230202, 0939_SW010_230202, 0939_SW018_230202, 0939_SW054_230202, 0939_SW017_230202, 0939_SW021_230202, 0939_SW028_230202, 0939_SW029_230202, 0939_SW032_230202, 0939_SW050_230202, 0939_SW058_230202, 0939_SW059_230202, 0939_SW062_230202, 0939_SW078_230202, 0939_QC107_230202	**02-Feb-2023**	**02-Mar-2023**	01-Aug-2023	✓	**03-Mar-2023**	01-Aug-2023	✓
[redacted]							

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)							
0939_SW012_230202, 0939_SW006_230202, 0939_SW009_230202, 0939_SW010_230202, 0939_SW018_230202, 0939_SW054_230202, 0939_SW017_230202, 0939_SW021_230202, 0939_SW028_230202, 0939_SW029_230202, 0939_SW032_230202, 0939_SW050_230202, 0939_SW058_230202, 0939_SW059_230202, 0939_SW062_230202, 0939_SW078_230202, 0939_QC107_230202	**02-Feb-2023**	**02-Mar-2023**	01-Aug-2023	✓	**03-Mar-2023**	01-Aug-2023	✓
[redacted]							
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_SW012_230202, 0939_SW006_230202, 0939_SW009_230202, 0939_SW010_230202, 0939_SW018_230202, 0939_SW054_230202, 0939_SW017_230202, 0939_SW021_230202, 0939_SW028_230202, 0939_SW029_230202, 0939_SW032_230202, 0939_SW050_230202, 0939_SW058_230202, 0939_SW059_230202, 0939_SW062_230202, 0939_SW078_230202, 0939_QC107_230202	**02-Feb-2023**	**02-Mar-2023**	01-Aug-2023	✓	**03-Mar-2023**	01-Aug-2023	✓
[redacted]							
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_SW012_230202, 0939_SW006_230202, 0939_SW009_230202, 0939_SW010_230202, 0939_SW018_230202, 0939_SW054_230202, 0939_SW017_230202, 0939_SW021_230202, 0939_SW028_230202, 0939_SW029_230202, 0939_SW032_230202, 0939_SW050_230202, 0939_SW058_230202, 0939_SW059_230202, 0939_SW062_230202, 0939_SW078_230202, 0939_QC107_230202	**02-Feb-2023**	**02-Mar-2023**	01-Aug-2023	✓	**03-Mar-2023**	01-Aug-2023	✓
[redacted]							

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)							
0939_SW012_230202, 0939_SW006_230202, 0939_SW009_230202, 0939_SW010_230202, 0939_SW018_230202, 0939_SW054_230202, 0939_SW017_230202, 0939_SW021_230202, 0939_SW028_230202, 0939_SW029_230202, 0939_SW032_230202, 0939_SW050_230202, 0939_SW058_230202, 0939_SW059_230202, 0939_SW062_230202, 0939_SW078_230202, 0939_QC107_230202	**02-Feb-2023**	**02-Mar-2023**	01-Aug-2023	✓	**03-Mar-2023**	01-Aug-2023	✓
H[redacted]							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	20	**0.00**	**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
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2303629**		
Amendment	: **2**		
Client	[redacted]		
Contact			
Address			
E-mail			
Telephone			
Facsimile			
Project	: SA_0939_PFASOMP_23	Page	: 1 of 3
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 21-Feb-2023 15:40	Issue Date	: 09-Mar-2023
Client Requested Due Date	: 03-Mar-2023	Scheduled Reporting Date	: **03-Mar-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- Rebatch of EM2302832
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail . All analysis results are as per the report.
- 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.

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)
EM2303629-001	21-Feb-2023 00:00	0939_MW4077_230221	✓
EM2303629-002	21-Feb-2023 00:00	0939_MW4021_230221	✓

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

ADELAIDE URS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303629**	Page	: 1 of 5
Amendment	: **2**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023 15:40
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 02-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023 13:51
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This 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*
Xing Lin	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 QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (06/03/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Imogen Cescato on 06/03/2023, for samples #1-2. All analysis results are as per the previous report.
- Rebatch of EM2302832
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail . All analysis results are as per the report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4077_230221	0939_MW4021_230221	----	----	----
				Sampling date / time	21-Feb-2023 00:00	21-Feb-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2303629-001	EM2303629-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4077_230221	0939_MW4021_230221	----	----	----
				Sampling date / time	21-Feb-2023 00:00	21-Feb-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2303629-001	EM2303629-002	--------	--------	--------
					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	%		**88.6**	**92.0**	----	----	----
13C8-PFOA	----	0.02	%		**95.6**	**95.4**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2303629**	Page	: 1 of 4
Amendment	: **2**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	Date Analysis Commenced	: 02-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Xing Lin	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%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4905598)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	93.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.3	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	93.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	86.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4905598)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	89.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.3	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	85.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.1	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	77.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4905598)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	91.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	96.8	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	87.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.1	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	87.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	89.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4905598)								
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	92.0	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	89.1	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4905598) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	93.5	70.0	130
EP231P: PFAS Sums (QCLot: 4905598)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303629**	Page	: 1 of 4
Amendment	: **2**		
Client	[redacted]		
Contact			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Feb-2023
Site	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]	No. of samples received	: 2
Order number	: 60612561 - 6.1 SA_0930_PFASOMP_23	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4077_230221, 0939_MW4021_230221	**21-Feb-2023**	**02-Mar-2023**	20-Aug-2023	✓	**03-Mar-2023**	20-Aug-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4077_230221, 0939_MW4021_230221	**21-Feb-2023**	**02-Mar-2023**	20-Aug-2023	✓	**03-Mar-2023**	20-Aug-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_MW4077_230221, 0939_MW4021_230221	**21-Feb-2023**	**02-Mar-2023**	20-Aug-2023	✓	**03-Mar-2023**	20-Aug-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4077_230221, 0939_MW4021_230221	**21-Feb-2023**	**02-Mar-2023**	20-Aug-2023	✓	**03-Mar-2023**	20-Aug-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW4077_230221, 0939_MW4021_230221	**21-Feb-2023**	**02-Mar-2023**	20-Aug-2023	✓	**03-Mar-2023**	20-Aug-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2303877**
Amendment : **1**

Client	[redacted]		
Contact			
Address			
E-mail			
Telephone			
Facsimile			
Project	: SA_0939_PFASOMP_23	Page	: 1 of 3
Order number	: 60612561-6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: [redacted]		

Dates

Date Samples Received	: 03-Mar-2023 08:28	Issue Date	: 09-Mar-2023
Client Requested Due Date	: 14-Mar-2023	Scheduled Reporting Date	: **09-Mar-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 5 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail. All analysis results are as per the report.
- 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.

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)
EM2303877-001	02-Mar-2023 00:00	0939_MW2189_230302		✓
EM2303877-002	02-Mar-2023 00:00	0939_MW4021_230302	✓	
EM2303877-003	02-Mar-2023 00:00	0939_MW4077_230302	✓	
EM2303877-004	02-Mar-2023 00:00	0939_QC114_230302	✓	
EM2303877-005	02-Mar-2023 00:00	0939_QC214_230302	✓	

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

Adelaide

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
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[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
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- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303877**	Page	: 1 of 5
Amendment	: **1**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 03-Mar-2023 08:28
Order number	: 60612561-6.1	Date Analysis Commenced	: 06-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023 13:55
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 5		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Xing Lin	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: Sample (EM2303877-001) 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 QSM5.3 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 EM2303935-006 due to sample matrix interference.
- Amendment (09/03/2023): This report has been amended to change project ID to SA_0939_PFASOMP_23, a request from Imogen Cescato on 09/03/2023 via e-mail. All analysis results are as per the report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2189_230302	----	----	----	----
				Sampling date / time	02-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2303877-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**12.9**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**19.8**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**114**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**15.5**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**306**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.04	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**1.8**	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.36**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**26.7**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**3.86**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**8.20**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.08**	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.04	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.13**	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2189_230302	----	----	----	----
				Sampling date / time	02-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2303877-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<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	----	----	----	----
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		**514**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**420**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**479**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.5**	----	----	----	----
13C8-PFOA	----	0.02	%		**85.7**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2303877**	Page	: 1 of 6
Amendment	: **1**		
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 03-Mar-2023
Order number	: 60612561-6.1	Date Analysis Commenced	: 06-Mar-2023
C-O-C number	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 5		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Xing Lin	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: **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: 4914511)									
EM2303877-001	0939_MW2189_230302	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	114	114	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	306	292	4.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	12.9	13.0	0.8	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	19.8	21.1	6.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	15.5	16.1	3.5	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4914511)									
EM2303877-001	0939_MW2189_230302	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	8.20	8.15	0.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	5.36	5.24	2.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	26.7	26.6	0.4	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	3.86	3.82	1.1	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.08	0.05	34.1	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.8	1.8	0.0	0% - 50%
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4914511)									
EM2303877-001	0939_MW2189_230302	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.13	0.14	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	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 (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4914511) - continued									
EM2303877-001	0939_MW2189_230302	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4914511)									
EM2303877-001	0939_MW2189_230302	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: 4914511)									
EM2303877-001	0939_MW2189_230302	EP231X: Sum of PFAS	----	0.01	µg/L	514	502	2.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	420	406	3.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	479	465	3.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4914511)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	94.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	89.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4914511)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	91.6	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	92.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	91.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4914511)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	107	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	100	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	97.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	97.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	94.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4914511)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.4	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	98.0	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	105	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4914511) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	75.0	70.0	130
EP231P: PFAS Sums (QCLot: 4914511)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4914511)							
EM2303935-006	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	89.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	83.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	90.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	98.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	81.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	87.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4914511)							
EM2303935-006	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 59.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	84.9	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	83.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	77.2	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	92.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.5	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	89.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	85.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	84.3	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4914511)							
EM2303935-006	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	82.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	91.2	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.0	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: 4914511) - continued							
EM2303935-006	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	84.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	84.4	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: 4914511)							
EM2303935-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	72.5	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303877**	Page	: 1 of 4
Amendment	: **1**		
Client	[redacted]		
Contact			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 03-Mar-2023
Site	: ----	Issue Date	: 09-Mar-2023
Sampler	: [redacted]	No. of samples received	: 5
Order number	: 60612561-6.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **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							
EP231B: Perfluoroalkyl Carboxylic Acids	EM2303935--006	Anonymous	**Perfluorobutanoic acid (PFBA)**	375-22-4	59.4 %	73.0-129%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	17	5.88	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0939_MW2189_230302	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0939_MW2189_230302	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0939_MW2189_230302	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0939_MW2189_230302	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0939_MW2189_230302	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2305133**

Client	[redacted]		
Contact			
Address			
E-mail			
Telephone	: ----	Telephone	: +6138549 9645
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: SA_0939_PFASOMP_23	Page	: 1 of 3
Order number	: 60612561 - 6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: EDN		
Sampler	: [redacted]		

Dates

Date Samples Received	: 23-Mar-2023 10:00	Issue Date	: 23-Mar-2023
Client Requested Due Date	: 30-Mar-2023	Scheduled Reporting Date	: **28-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 7 / 7

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- 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.

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)
EM2305133-001	22-Mar-2023 00:00	0939_MW2137_230322	✓
EM2305133-002	22-Mar-2023 00:00	0939_MW2135_230322	✓
EM2305133-003	22-Mar-2023 00:00	0939_MW2285_230322	✓
EM2305133-004	22-Mar-2023 00:00	0939_QC115_230322	✓
EM2305133-005	22-Mar-2023 00:00	0939_QC308_230322	✓
EM2305133-006	22-Mar-2023 00:00	0939_QC408_230322	✓
EM2305133-007	22-Mar-2023 00:00	0939_QC505_230322	✓

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

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email
- EDI Format - XTab (XTAB) Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email
- EDI Format - XTab (XTAB) Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) Email
- EDI Format - ESDAT (ESDAT) Email
- EDI Format - XTab (XTAB) Email

RESULTS (URS)

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email
- EDI Format - XTab (XTAB) Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305133**	Page	: 1 of 7
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 23-Mar-2023 10:00
Order number	: 60612561 - 6.1	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 28-Mar-2023 12:02
Sampler	: [redacted]		
Site	: EDN		
Quote number	: SY/139/19 V3		
No. of samples received	: 7		
No. of samples analysed	: 7		

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*
Xing Lin	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 QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2137_230322	0939_MW2135_230322	0939_MW2285_230322	0939_QC115_230322	0939_QC308_230322
				Sampling date / time	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00
					EM2305133-001	EM2305133-002	EM2305133-003	EM2305133-004	EM2305133-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.08**	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**2.04**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**12.2**	<0.01	**0.06**	**0.06**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.62**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**10.4**	<0.01	**0.22**	**0.23**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.25**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.45**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.16**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.34**	<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	0939_MW2137_230322	0939_MW2135_230322	0939_MW2285_230322	0939_QC115_230322	0939_QC308_230322
				Sampling date / time	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00	22-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305133-001	EM2305133-002	EM2305133-003	EM2305133-004	EM2305133-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.25**	**0.25**	<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		**28.7**	<0.01	**0.53**	**0.54**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**22.6**	<0.01	**0.28**	**0.29**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**26.1**	<0.01	**0.53**	**0.54**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**92.4**	**85.6**	**87.9**	**86.4**	**86.7**
13C8-PFOA	----	0.02	%		**96.6**	**94.9**	**96.0**	**95.7**	**95.2**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC408_230322	0939_QC505_230322	----	----	----
				Sampling date / time	22-Mar-2023 00:00	22-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305133-006	EM2305133-007	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC408_230322	0939_QC505_230322	----	----	----
				Sampling date / time	22-Mar-2023 00:00	22-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305133-006	EM2305133-007	--------	--------	--------
					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	%		**89.3**	**93.9**	----	----	----
13C8-PFOA	----	0.02	%		**93.3**	**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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2305133**	Page	: 1 of 6
Client	[redacted]		
Contact			
Address			
Telephone			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 23-Mar-2023
Order number	: 60612561 - 6.1	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 28-Mar-2023
Sampler	: [redacted]		
Site	: EDN		
Quote number	: SY/139/19 V3		
No. of samples received	: 7		
No. of samples analysed	: 7		

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*
Xing Lin	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: **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: 4950399)									
EM2305025-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<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
EM2305128-002	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	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: 4950399)									
EM2305025-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

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: 4950399) - continued									
EM2305128-002	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4950399)									
EM2305025-001	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
EM2305128-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4950399)									
EM2305025-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4950399) - continued									
EM2305025-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EM2305128-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4950399)									
EM2305025-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.0	No Limit
EM2305128-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4950399)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	98.7	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	100	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	108	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	83.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4950399)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	108	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	88.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	93.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.8	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: 4950399)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.6	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 (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	110	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	98.3	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	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4950399)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	98.3	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	103	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	110	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4950399) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	73.9	70.0	130
EP231P: PFAS Sums (QCLot: 4950399)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305133**	Page	: 1 of 5
Client	[redacted]		
Contact			
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 23-Mar-2023
Site	: EDN	Issue Date	: 28-Mar-2023
Sampler	: [redacted]	No. of samples received	: 7
Order number	: 60612561 - 6.1	No. of samples analysed	: 7

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2137_230322, 0939_MW2135_230322, 0939_MW2285_230322, 0939_QC115_230322, 0939_QC308_230322, 0939_QC408_230322, 0939_QC505_230322	**22-Mar-2023**	**24-Mar-2023**	18-Sep-2023	✓	**27-Mar-2023**	18-Sep-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2137_230322, 0939_MW2135_230322, 0939_MW2285_230322, 0939_QC115_230322, 0939_QC308_230322, 0939_QC408_230322, 0939_QC505_230322	**22-Mar-2023**	**24-Mar-2023**	18-Sep-2023	✓	**27-Mar-2023**	18-Sep-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_MW2137_230322, 0939_MW2135_230322, 0939_MW2285_230322, 0939_QC115_230322, 0939_QC308_230322, 0939_QC408_230322, 0939_QC505_230322	**22-Mar-2023**	**24-Mar-2023**	18-Sep-2023	✓	**27-Mar-2023**	18-Sep-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2137_230322, 0939_MW2135_230322, 0939_MW2285_230322, 0939_QC115_230322, 0939_QC308_230322, 0939_QC408_230322, 0939_QC505_230322	**22-Mar-2023**	**24-Mar-2023**	18-Sep-2023	✓	**27-Mar-2023**	18-Sep-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW2137_230322, 0939_MW2135_230322, 0939_MW2285_230322, 0939_QC115_230322, 0939_QC308_230322, 0939_QC408_230322, 0939_QC505_230322	**22-Mar-2023**	**24-Mar-2023**	18-Sep-2023	✓	**27-Mar-2023**	18-Sep-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: L[redacted]
A

Email: J[redacted]

Telephone:

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address:

Email:

Telephone

Fax:

SAMPLE DETAILS

NMI Job Name: AECO04/230224

Total No. of Samples: 13

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/003369	3-MAR-2023	QC201_230130	WATER EDN 30/01/23
N23/003370	3-MAR-2023	QC202_230130	WATER EDN 30/01/23
N23/003371	3-MAR-2023	QC203_230131	WATER EDN 31/01/23
N23/003372	3-MAR-2023	QC204_230131	WATER EDN 31/01/23
N23/003373	3-MAR-2023	QC205_230201	WATER EDN 01/02/23
N23/003374	3-MAR-2023	QC206_230202	WATER EDN 02/02/23
N23/003375	3-MAR-2023	QC207_230202	WATER EDN 02/02/23
N23/003376	3-MAR-2023	QC208_230215	WATER EDN 15/02/23
N23/003377	3-MAR-2023	QC209_230216	WATER EDN 16/02/23
N23/003378	3-MAR-2023	QC210_230216	WATER EDN 16/02/23
N23/003379	3-MAR-2023	QC211_230216	WATER EDN 16/02/23

[redacted]

N23/003381 3-MAR-2023 QC213_230216 WATER EDN 16/02/23

SAMPLE RECEIVED CONDITION

Date samples received:	24-FEB-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	
Client purchase order number:	60612561_6_1
Temperature of samples:	Chilled
Comments:	Sample QC207_230202 has been placed on hold.
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

REPORT OF ANALYSIS

Report No. RN1385681

Client	: [redacted]	**Job No.**	: AECO04/230224
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 24-FEB-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/003369	0939_QC201_230130	WATER EDN 30/01/23
N23/003370	0939_QC202_230130	WATER EDN 30/01/23
N23/003371	0939_QC203_230131	WATER EDN 31/01/23
N23/003372	0939_QC204_230131	WATER EDN 31/01/23

Lab Reg No.		N23/003369	N23/003370	N23/003371	N23/003372	
Date Sampled		30-JAN-2023	30-JAN-2023	31-JAN-2023	31-JAN-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.056	24	6.8	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.057	38	7.9	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.42	180	33	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.039	23	5.9	<0.01	NR70
PFOA (335-67-1)	ug/L	0.10	55	11	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	0.40	0.31	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	0.059	0.15	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	0.12	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.14	90	8.6	<0.01	NR70
PFHxS (355-46-4)	ug/L	2.2	930	62	<0.01	NR70
PFHpS (375-92-8)	ug/L	0.17	50	5.4	<0.01	NR70
PFOS (1763-23-1)	ug/L	3.4	4100	240	<0.02	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	0.80	<0.01	NR70
PFBS (375-73-5)	ug/L	0.092	77	8.7	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	0.097	0.21	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/003369	N23/003370	N23/003371	N23/003372	
Date Sampled		30-JAN-2023	30-JAN-2023	31-JAN-2023	31-JAN-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	0.42	0.39	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	0.20	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	106	100	107	110	NR70
PFPeA (Surrogate Recovery)	%	108	107	127	106	NR70
PFHxA (Surrogate Recovery)	%	111	80	61	112	NR70
PFHpA (Surrogate Recovery)	%	108	104	106	110	NR70
PFOA (Surrogate Recovery)	%	108	102	99	112	NR70
PFNA (Surrogate Recovery)	%	106	52	51	107	NR70
PFDA (Surrogate Recovery)	%	110	110	116	111	NR70
PFUdA (Surrogate Recovery)	%	106	106	109	109	NR70
PFDoA (Surrogate Recovery)	%	97	102	103	104	NR70
PFTeDA (Surrogate Recovery)	%	91	105	96	99	NR70
PFHxDA (Surrogate Recovery)	%	113	122	126	118	NR70
FOUEA (Surrogate Recovery)	%	107	114	127	101	NR70
PFBS (Surrogate Recovery)	%	106	89	93	103	NR70
PFHxS (Surrogate Recovery)	%	99	50	56	112	NR70
PFOS (Surrogate Recovery)	%	109	93	104	114	NR70
PFOSA (Surrogate Recovery)	%	97	106	103	99	NR70
N-MeFOSA (Surrogate Recovery)	%	93	116	98	92	NR70
N-EtFOSA (Surrogate Recovery)	%	92	123	97	96	NR70
N-MeFOSAA (Surrogate Recovery)	%	94	108	92	95	NR70
N-EtFOSAA (Surrogate Recovery)	%	97	103	103	97	NR70
N-MeFOSE (Surrogate Recovery)	%	101	118	108	106	NR70
N-EtFOSE (Surrogate Recovery)	%	97	125	109	104	NR70
4:2 FTS (Surrogate Recovery)	%	99	87	104	100	NR70
6:2 FTS (Surrogate Recovery)	%	94	91	110	84	NR70
8:2 FTS (Surrogate Recovery)	%	100	83	106	93	NR70
8:2 diPAP (Surrogate Recovery)	%	110	117	121	107	NR70
Dates						
Date extracted		28-FEB-2023	28-FEB-2023	28-FEB-2023	28-FEB-2023	
Date analysed		28-FEB-2023	28-FEB-2023	28-FEB-2023	28-FEB-2023	

N23/003369
to
N23/003381

[redacted]

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

N23/003372
Sample was re-analysed and the repeat analysis result reported.

[redacted]

Organics - NSW
Accreditation No. 198

15-MAR-2023

REPORT OF ANALYSIS

Client	[redacted]	**Job No.**	: AECO04/230224
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 24-FEB-2023
Attention	: [redacted]	**Sampled By**	[redacted]
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	

Lab Reg No.	Sample Ref	Sample Description
N23/003373	0939_QC205_230201	WATER EDN 01/02/23
N23/003374	0939_QC206_230202	WATER EDN 02/02/23
N23/003375	0939_QC207_230202	WATER EDN 02/02/23
N23/003376	0939_QC208_230215	WATER EDN 15/02/23

Lab Reg No.		N23/003373	N23/003374	N23/003375	N23/003376	
Date Sampled		01-FEB-2023	02-FEB-2023	02-FEB-2023	15-FEB-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.091	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.094	<0.02	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.47	<0.01	0.011	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.087	<0.01	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L	0.21	<0.01	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.42	<0.01	<0.01	<0.01	NR70
PFHxS (355-46-4)	ug/L	3.9	0.019	<0.01	0.076	NR70
PFHpS (375-92-8)	ug/L	0.25	<0.01	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L	8.2	0.026	0.082	0.22	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.30	<0.01	<0.01	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/003373	N23/003374	N23/003375	N23/003376	
Date Sampled		01-FEB-2023	02-FEB-2023	02-FEB-2023	15-FEB-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	102	115	113	108	NR70
PFPeA (Surrogate Recovery)	%	103	117	122	100	NR70
PFHxA (Surrogate Recovery)	%	105	92	103	107	NR70
PFHpA (Surrogate Recovery)	%	101	98	105	106	NR70
PFOA (Surrogate Recovery)	%	106	104	114	109	NR70
PFNA (Surrogate Recovery)	%	94	115	106	103	NR70
PFDA (Surrogate Recovery)	%	102	109	103	99	NR70
PFUdA (Surrogate Recovery)	%	96	87	77	93	NR70
PFDoA (Surrogate Recovery)	%	93	67	63	85	NR70
PFTeDA (Surrogate Recovery)	%	90	62	62	86	NR70
PFHxDA (Surrogate Recovery)	%	115	87	88	109	NR70
FOUEA (Surrogate Recovery)	%	102	112	105	93	NR70
PFBS (Surrogate Recovery)	%	96	98	104	96	NR70
PFHxS (Surrogate Recovery)	%	92	100	105	101	NR70
PFOS (Surrogate Recovery)	%	106	102	115	105	NR70
PFOSA (Surrogate Recovery)	%	82	73	63	88	NR70
N-MeFOSA (Surrogate Recovery)	%	83	51	48	76	NR70
N-EtFOSA (Surrogate Recovery)	%	83	46	47	76	NR70
N-MeFOSAA (Surrogate Recovery)	%	90	67	60	80	NR70
N-EtFOSAA (Surrogate Recovery)	%	85	63	60	79	NR70
N-MeFOSE (Surrogate Recovery)	%	98	56	61	91	NR70
N-EtFOSE (Surrogate Recovery)	%	90	54	59	90	NR70
4:2 FTS (Surrogate Recovery)	%	92	187	200	81	NR70
6:2 FTS (Surrogate Recovery)	%	83	136	126	84	NR70
8:2 FTS (Surrogate Recovery)	%	86	109	87	81	NR70
8:2 diPAP (Surrogate Recovery)	%	100	74	68	95	NR70
Dates						
Date extracted		28-FEB-2023	28-FEB-2023	28-FEB-2023	28-FEB-2023	
Date analysed		28-FEB-2023	28-FEB-2023	28-FEB-2023	28-FEB-2023	

REPORT OF ANALYSIS

Lab Reg No.		N23/003373	N23/003374	N23/003375	N23/003376	
Date Sampled		01-FEB-2023	02-FEB-2023	02-FEB-2023	15-FEB-2023	
	Units					Method

[redacted]

Organics - NSW
Accreditation No. 198

15-MAR-2023

REPORT OF ANALYSIS

Report No. RN1385681

Client	[redacted]	**Job No.**	: AECO04/230224
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 24-FEB-2023
Attention		**Sampled By**	: [redacted]
Project Name : SA_0939_PFASOMP_23			
Your Client Services Manager [redacted]		**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/003377	0939_QC209_230216	WATER EDN 16/02/23
N23/003378	0939_QC210_230216	WATER EDN 16/02/23
N23/003379	0939_QC211_230216	WATER EDN 16/02/23

[redacted]

Lab Reg No.		N23/003377	N23/003378	N23/003379	[redacted]	
Date Sampled		16-FEB-2023	16-FEB-2023	16-FEB-2023		
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	0.11		NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	0.087		NR70
PFHxA (307-24-4)	ug/L	0.11	<0.01	0.26		NR70
PFHpA (375-85-9)	ug/L	0.012	<0.01	0.044		NR70
PFOA (335-67-1)	ug/L	0.024	<0.01	0.10		NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01		NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01		NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01		NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01		NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02		NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02		NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02		NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05		NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01		NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01		NR70
PFPeS (2706-91-4)	ug/L	0.059	<0.01	0.17		NR70
PFHxS (355-46-4)	ug/L	0.78	<0.01	2.5		NR70
PFHpS (375-92-8)	ug/L	0.042	<0.01	0.069		NR70
PFOS (1763-23-1)	ug/L	0.51	<0.02	4.0		NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01		NR70
PFBS (375-73-5)	ug/L	0.036	<0.01	0.13		NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01		NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02		NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02		NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01		NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01		NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05		NR70

[redacted]

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Lab Reg No.		N23/003377	N23/003378	N23/003379	[redacted]	
Date Sampled		16-FEB-2023	16-FEB-2023	16-FEB-2023		
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05		NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01		NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01		NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01		NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01		NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02		NR70
PFBA (Surrogate Recovery)	%	104	110	110		NR70
PFPeA (Surrogate Recovery)	%	104	102	106		NR70
PFHxA (Surrogate Recovery)	%	109	110	114		NR70
PFHpA (Surrogate Recovery)	%	103	108	104		NR70
PFOA (Surrogate Recovery)	%	108	110	107		NR70
PFNA (Surrogate Recovery)	%	103	109	101		NR70
PFDA (Surrogate Recovery)	%	100	105	104		NR70
PFUdA (Surrogate Recovery)	%	89	106	96		NR70
PFDoA (Surrogate Recovery)	%	81	92	86		NR70
PFTeDA (Surrogate Recovery)	%	74	89	83		NR70
PFHxDA (Surrogate Recovery)	%	104	112	109		NR70
FOUEA (Surrogate Recovery)	%	102	103	109		NR70
PFBS (Surrogate Recovery)	%	95	98	102		NR70
PFHxS (Surrogate Recovery)	%	104	100	98		NR70
PFOS (Surrogate Recovery)	%	105	110	111		NR70
PFOSA (Surrogate Recovery)	%	88	94	90		NR70
N-MeFOSA (Surrogate Recovery)	%	69	82	78		NR70
N-EtFOSA (Surrogate Recovery)	%	70	79	78		NR70
N-MeFOSAA (Surrogate Recovery)	%	75	81	85		NR70
N-EtFOSAA (Surrogate Recovery)	%	76	77	83		NR70
N-MeFOSE (Surrogate Recovery)	%	77	87	83		NR70
N-EtFOSE (Surrogate Recovery)	%	74	86	85		NR70
4:2 FTS (Surrogate Recovery)	%	89	82	94		NR70
6:2 FTS (Surrogate Recovery)	%	81	86	89		NR70
8:2 FTS (Surrogate Recovery)	%	78	86	85		NR70
8:2 diPAP (Surrogate Recovery)	%	104	98	104		NR70
Dates						
Date extracted		28-FEB-2023	28-FEB-2023	28-FEB-2023		
Date analysed		28-FEB-2023	28-FEB-2023	28-FEB-2023		

[redacted]

REPORT OF ANALYSIS

Lab Reg No.		N23/003377	N23/003378	N23/003379	[redacted]	
Date Sampled		16-FEB-2023	16-FEB-2023	16-FEB-2023	[redacted]	
	Units				[redacted]	Method

[redacted]

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REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO04/230224
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 24-FEB-2023
Attention	[redacted]	**Sampled By**	: [redacted]
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/003381	0939_QC213_230216	WATER EDN 16/02/23

Lab Reg No.		N23/003381				
Date Sampled		16-FEB-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.056				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	0.025				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	0.027				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	0.051				NR70
PFHxS (355-46-4)	ug/L	0.42				NR70
PFHpS (375-92-8)	ug/L	0.020				NR70
PFOS (1763-23-1)	ug/L	0.96				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	0.046				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/003381				
Date Sampled		16-FEB-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	106				NR70
PFPeA (Surrogate Recovery)	%	96				NR70
PFHxA (Surrogate Recovery)	%	112				NR70
PFHpA (Surrogate Recovery)	%	109				NR70
PFOA (Surrogate Recovery)	%	110				NR70
PFNA (Surrogate Recovery)	%	114				NR70
PFDA (Surrogate Recovery)	%	111				NR70
PFUdA (Surrogate Recovery)	%	108				NR70
PFDoA (Surrogate Recovery)	%	103				NR70
PFTeDA (Surrogate Recovery)	%	92				NR70
PFHxDA (Surrogate Recovery)	%	120				NR70
FOUEA (Surrogate Recovery)	%	111				NR70
PFBS (Surrogate Recovery)	%	105				NR70
PFHxS (Surrogate Recovery)	%	104				NR70
PFOS (Surrogate Recovery)	%	108				NR70
PFOSA (Surrogate Recovery)	%	100				NR70
N-MeFOSA (Surrogate Recovery)	%	78				NR70
N-EtFOSA (Surrogate Recovery)	%	81				NR70
N-MeFOSAA (Surrogate Recovery)	%	95				NR70
N-EtFOSAA (Surrogate Recovery)	%	91				NR70
N-MeFOSE (Surrogate Recovery)	%	90				NR70
N-EtFOSE (Surrogate Recovery)	%	89				NR70
4:2 FTS (Surrogate Recovery)	%	98				NR70
6:2 FTS (Surrogate Recovery)	%	86				NR70
8:2 FTS (Surrogate Recovery)	%	94				NR70
8:2 diPAP (Surrogate Recovery)	%	124				NR70
Dates						
Date extracted		28-FEB-2023				
Date analysed		28-FEB-2023				

[redacted]

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[redacted]

REPORT OF ANALYSIS

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1385640*
RN1384528 *RN1385200*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: [redacted]

[redacted]

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO04/230224 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
				[redacted]				
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	114	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	102	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	105	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	106	NA
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	106	NA
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	111	NA
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	107	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	106	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	110	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	115	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	113	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	100	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	94	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	87	NA
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	105	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	116	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	0.033	0.034	3.0	109	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	114	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	0.13	0.19	38	99	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	102	NA
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	96	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	105	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	107	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	105	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	104	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	126	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	97	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	97	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	107	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	103	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	111	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	89	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	87	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Date:

[redacted]

National Measurement Institute

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOM [redacted]

[redacted]

Fax: **Fax:**

SAMPLE DETAILS

NMI Job Name: AECO04/230329

Total No. of Samples: 1

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/006119	5-APR-2023	QC215_230322	WATER SITE: EDN LOCATION EDN QC 23/03/2023

[redacted]

SAMPLE RECEIVED CONDITION

Date samples received:	29-MAR-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	SA_0939_PFASOMP_23
Client purchase order number:	60612561_6_1
Temperature of samples:	Chilled
Comments:	ALL OK
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

NATA

REPORT OF ANALYSIS

Report No. RN1388997

Client	: [redacted]	**Job No.**	: AECO04/230329
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 29-MAR-2023
Attention	: [redacted]	**Sampled By**	: [redacted]
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/006119	0939_QC215_230322	WATER SITE: EDN LOCATION EDN QC 23/03/2023

Lab Reg No.		N23/006119				
Date Sampled		22-MAR-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	0.010				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	<0.01				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	<0.01				NR70
PFHxS (355-46-4)	ug/L	0.071				NR70
PFHpS (375-92-8)	ug/L	<0.01				NR70
PFOS (1763-23-1)	ug/L	0.29				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	<0.01				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	0.35				NR70

[redacted]

REPORT OF ANALYSIS

Lab Reg No.		N23/006119				
Date Sampled		22-MAR-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	86				NR70
PFPeA (Surrogate Recovery)	%	87				NR70
PFHxA (Surrogate Recovery)	%	85				NR70
PFHpA (Surrogate Recovery)	%	83				NR70
PFOA (Surrogate Recovery)	%	88				NR70
PFNA (Surrogate Recovery)	%	90				NR70
PFDA (Surrogate Recovery)	%	86				NR70
PFUdA (Surrogate Recovery)	%	85				NR70
PFDoA (Surrogate Recovery)	%	77				NR70
PFTeDA (Surrogate Recovery)	%	75				NR70
PFHxDA (Surrogate Recovery)	%	82				NR70
FOUEA (Surrogate Recovery)	%	76				NR70
PFBS (Surrogate Recovery)	%	78				NR70
PFHxS (Surrogate Recovery)	%	86				NR70
PFOS (Surrogate Recovery)	%	84				NR70
PFOSA (Surrogate Recovery)	%	75				NR70
N-MeFOSA (Surrogate Recovery)	%	65				NR70
N-EtFOSA (Surrogate Recovery)	%	67				NR70
N-MeFOSAA (Surrogate Recovery)	%	80				NR70
N-EtFOSAA (Surrogate Recovery)	%	74				NR70
N-MeFOSE (Surrogate Recovery)	%	68				NR70
N-EtFOSE (Surrogate Recovery)	%	66				NR70
4:2 FTS (Surrogate Recovery)	%	82				NR70
6:2 FTS (Surrogate Recovery)	%	86				NR70
8:2 FTS (Surrogate Recovery)	%	77				NR70
8:2 diPAP (Surrogate Recovery)	%	86				NR70
Dates						
Date extracted		31-MAR-2023				
Date analysed		31-MAR-2023				

N23/006119
PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

REPORT OF ANALYSIS

Lab Reg No.		N23/006119				
Date Sampled		22-MAR-2023				
	Units					Method

[redacted]

Organics - NSW
Accreditation No. 198

13-APR-2023

NATA
WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1388214*
RN1388285

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO04/230329 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	120	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	116	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	116	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	114	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	126	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	117	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	112	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	119	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	123	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	122	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	127	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	116	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	146	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	110	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	116	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	124	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	114	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	117	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	121	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	112	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	114	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	122	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	117	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	112	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	116	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	116	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	116	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	128	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	128	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	123	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	92	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	120	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Date: **5/04/2023**

[redacted]

Appendix F

Calibration Certificates

KENNARDS HIRE

EQUIPMENT CERTIFICATION REPORT

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 1088643 **Serial Number:** 21H104244

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330737 380327	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	364457	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	10465	☑
ORP	240mV @ 20°C	240mV	-	334306 338482	☑

Battery Status 90 %	Temperature 23,1 °C
Electrodes Cleaned and Checked	

Note: Calibration solution traceability information is available upon request.

[redacted]

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		

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[redacted]

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235274 **Serial Number:** 252089

Probe Length: 60 m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 9,5V	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

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[redacted]

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP JAN 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Kennards
Make and Model:	YSI
Serial Number:	8643

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	16/2/23				
Parameter	Acidity		Conductivity	~~ORP~~	Dissolved Oxygen
Units	pH	pH	µS/cm	~~mV~~ ppm	ppm
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	3.98	7.02	11990	239.4	98.1
Calibration Temperature:	22.1	23.1	22.1	22.4	24.1

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.

[redacted]

16/2/23
Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP JAN 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Kennards
Make and Model:	YSI
Serial Number:	6842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	03/02/23				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	~~mV~~ ~~ppm~~	~~ppm~~
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	3.90	7.01	12800	241.1	97.1
Calibration Temperature:	20.8	20.9	20.7	21.0	21.1

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 individ[redacted]ested as required by fieldwork staff.

03/02/23
Date

Distribution: P[redacted]

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP JAN 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Kennards
Make and Model:	YSI
Serial Number:	6842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	31/01/23				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~mV~~ ~~ppm~~ %	% ~~ppm~~
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.02	7.04	12900	239.1	99.1
Calibration Temperature:	20.2	20.1	20.2	20.3 C	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 indi[redacted]libratred daily and bump tested as required by fieldwork staff.

31/01/23
Date

Distributio[redacted]

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP JAN 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Kennards
Make and Model:	YSI
Serial Number:	6842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	[redacted] 02/02/23				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	MV ~~ppm~~	~~ppm~~
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.09	6.98	12395	255.3	97.3
Calibration Temperature:	12.6	12.7	12.7	12.7	12.7

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

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

02/02/2023
Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP JAN 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Kemmerdy
Make and Model:	YSI
Serial Number:	6842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	1/2/23				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	MV ~~ppm~~	% ~~ppm~~
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.03	7.06	11960	243.3	97.1
Calibration Temperature:	22.4	22.6	22.4	22.5	22.1

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.

[redacted]

Fieldwork Staff Signature

01/02/2023

Date

Distribution: Project Central File

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 1086842 **Serial Number:** 21E103534

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330737 380327	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	343265	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	10465	☑
ORP	240mV @ 20°C	240mV	—	337308 338782	☑

Battery Status 100 %	Temperature 25 °C
Electrodes Cleaned and Checked	

Note: Calibration solution traceability information is available upon request.

Checked By [redacted]

Accessories List:

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		

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[redacted]

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235246 **Serial Number:** 267996

Probe Length: 60m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 9.0v	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

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[redacted]

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235227 **Serial Number:** 238071

Probe Length: 30m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 9.1v	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

SINCE 1948 *Make your job EASY!*

[redacted]

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 1077348 **Serial Number:** 20L101814

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330732 / 380327	☑
Conductivity	12.88 mS/cm	12.88 mS/cm		367757	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	10465	☑
ORP	240mV @ 20°C	240mV	-	337308 / 338782	☑

Battery Status 90 %	Temperature 27.5 °C
Electrodes Cleaned and Checked	

Note: Calibration solution traceability information is available upon request.

Checked By [redacted]

Accessories List:

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		

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[redacted]

Prepared for
Department of Defence Directorate of PFAS Remediation Environment and Engineering Branch
ABN: 68706814312

Sampling Event Factual Report, July and October 2023

PFAS OMP - RAAF Base Edinburgh

08-Jan-2023
PFAS Ongoing Monitoring Plan

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Sampling Event Factual Report, July and October 2023

PFAS OMP - RAAF Base Edinburgh

Client: Department of Defence Directorate of PFAS Remediation Environment and Engineering Branch

ABN: 68706814312

Prepared by

AECOM,

08-Jan-2023

Job No.: 60612561

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

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Abbreviations

Term	Description
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
DCMM	Defence Contamination Management Manual
DEW	Department for Environment and Water
DO	dissolved oxygen
DQI	Data Quality Indicators
DQO	Data Quality Objectives
EC	electrical conductivity
EDCA	Environmental data collection and analysis
FSANZ	Food Standards Australia New Zealand
HEPA	Heads of the Environmental Protection Agencies
LOR	limit of reporting
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	oxidation-reduction potential
PFAS	per- and poly-fluoroalkyl substances
PFHxS	perfluorohexane sulfonic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
Q	Quaternary aquifer unit
RPD	relative percent difference
SA EPA	South Australian Environment Protection Authority
SAQP	Sampling and Analysis Quality Plan
T1	Tertiary aquifer unit 1

List of Units

Units	Term
µg/L	micrograms per litre
µS/cm	micro-Siemens per centimetre
g	gram
L	litre
m	metre
mAHD	metres Australian Height Datum
m bgl	metres below ground level
m btoc	metres below top of casing
µg/L	milligrams per litre
mV	millivolts

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, 2019a) at RAAF Base Edinburgh (the 'Base') in South Australia. The locations of the Base and Management Area are shown in **Figure 1.1**, **Appendix A** and PFAS source areas as outlined in the PMAP (Department of Defence, 2019a) are shown in **Figure 1.2, Appendix A**. A groundwater prohibition area was gazetted by the South Australian Environment Protection Authority (SA EPA) on 3 February 2022 and is largely coincident with the Management Area, as shown on **Figure 1.3**, **Appendix A**.

The primary purpose of the PFAS OMP is to monitor changes to the PFAS impact in groundwater and surface water pathways associated with sources of PFAS as initially assessed through the detailed site investigation phase of works. Changes may result from the specific or cumulative impact of remediation or containment actions, existing transportation trends, and changes to hydrogeology or weather events. Sampling events are undertaken on a biannual basis to capture seasonal data for the dry and wet seasons.

The monitoring program at RAAF Base Edinburgh includes a regime of groundwater and surface water sampling to capture these changes in the long term, to enable Defence to maintain an up-to-date understanding of temporal and spatial distribution, concentration and transport of PFAS contaminants. The data collected will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PFAS Management Area Plan (Defence, 2019).

1.2 Objectives

The objective of the July OMP sampling program and factual report were to:

- Collect data from the Base and within the Management Area that can be used to monitor contamination and collect trend data to make informed decisions about the contamination risk profile.
- To summarise the scope of works and findings for the wet season groundwater and surface water sampling event conducted in July 2023, specifically highlighting first-time detections and/or new exceedances of adopted human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonic acid (PFHxS) and for perfluorooctanoic acid (PFOA).

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

An ongoing monitoring report will be subsequently developed for the purpose of assessing the data collected during the discrete monitoring events completed over the preceding 12-month period and will include assessment of environmental variability and any statistically significant trends in PFAS concentrations.

2.0 Scope of work

2.1 Overarching scope

The sampling event was completed in general accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2022).

Prior to commencement of the sampling event the SAQP was reviewed to ensure compliance with the following:

- The OMP (Department of Defence, 2019a)
- Heads of the Environment Protection Authority (HEPA), PFAS National Environmental Management Plan 2.0 (NEMP 2.0) (HEPA, 2020)
- National Environment Protection (Assessment of Site Contamination) Measure 1999
- Defence Routine Environment Water Quality Monitoring Manual (Department of Defence, 2019b)
- Defence Contamination Management Manual (DCMM) (Department of Defence, 2021b)
- AS/NZ 5667:1998 Water quality – Sampling (AS/NZS, 1998)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)

2.2 Wet season scope

The scope of works completed in accordance with the Sampling, Analysis and Quality Plan (SAQP) (AECOM, 2022) included:

- Obtaining access to two City of Salisbury operational bores, one Department for Environment and Water (DEW) monitoring bore and one private bore.
- Collection of 101 groundwater samples (including gauging of groundwater levels), in July 2023 from 105 planned existing monitoring wells, 102 using Hydrasleeves™, and three using permanently fitted headworks and taps (refer to **Table 1** below, and **Figure 2**, **Appendix A** for specific locations). It should be noted that wells MW2116 and MW2411 were buried and unable to be sampled. MW4027 and MW4076 were flooded above the Gatic cover and unable to be sampled. Monitoring locations MW2116, MW2411, MW4027, and MW4076 were subsequently sampled in October 2023.
- Gauging of an additional 18 wells to supplement the well network targeted for sampling, to inform groundwater flow directions (refer **Table 2** below).
- Collection of 18 surface water samples from 21 planned locations in July 2023 (refer to **Table 3** below and **Figure 3** in **Appendix A** for specific locations) coinciding with a significant rainfall event. Three locations were observed to be dry; surface water samples were therefore unable to be collected from these locations during this sampling event.
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and rinsates, field blanks and trip blanks.
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of the PFAS OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

2.3 Monitoring locations

The monitoring locations outlined within the relevant SAQP (AECOM, 2022) for the groundwater and surface water sampling events are tabulated below. Deviations from the planned sampling are highlighted in bold and detailed in **Section 2.4** below.

Table 1 Planned Groundwater Sampling Locations

Location Description	Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
Background North and Northeast of Base	Quaternary aquifer unit (Q1)	MW2325, MW2134, MW2135, MW2159,	MW4218	On-Base (6 locations) Off-Base (1 location)
	Q2	MW2216, MW2218	-	
Source Area P4	Q1	MW2358, MW2411, MW2394	-	On-Base (5 locations)
	Q2	MW2126, MW2162	-	
Source Areas P9 and P15, P11, P16 and P21	Q1	MW2499, MW2112, MW2116, MW2120, MW2148, MW2149, MW2150, MW2188, MW2194, MW2197, MW2201, MW2203	-	On-Base (19 locations)
	Q2	MW2158, MW2189, MW2200, MW2202	-	
	Q3	MW2270, MW2272	-	
	Q4	MW2284	-	
Source Areas P1, P3A, P3B and P27	Q1	MW2528, MW2490 MW2114, MW2130, MW2131, MW2193	-	On-Base (9 locations)
	Q2	MW2157, MW2209, MW2210	-	
Southern, western and northern boundary	Q1	MW2501, MW2129, MW2137, MW2139, MW2166, MW2169, MW2172, MW2175, MW2177, MW2180, MW2182, MW2184	MW4013	On-Base (21 locations) Off-Base (1 location)
	Q2	MW2145, MW2173, MW2176, MW2183, MW2185	-	
	Q3	MW2275, MW2281	-	
	Q4	MW2285, MW2286	-	
Helps Road Drain	Q1	-	MW4001, MW4003, MW4015, MW4053	Off-Base (11 locations)
	Q2	-	MW4035, MW4045, MW4048	
	Q3	-	MW4068, MW4069^, MW4070	

Location Description	Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
	Q4	-	MW4075	
Lateral extent of PFAS impacts	Q1	-	MW4009, MW4020, MW4023, MW4027, MW4037, MW4041, MW4052, MW4055, MW4059, MW4060, MW4061, MW4064, MW4072, MW4219	Off-Base (20 locations)
	Q2		MW4021, MW4022, MW4024, MW4076, MW4077	
	Q3		MW4071	
Proximity to identified licensed groundwater users	Q1	-	MW4057, MW4058	Off-Base (9 locations)
	Q2		MW4065, MW4066	
	Q3		MW4069^, MW4073, MW4074,	
	Q4		MW4078, MW4079	
Tertiary Aquifer Bores	T1 (Tertiary aquifer unit 1)	-	MW4221, MW4220 and MW4222	Off-Base (3 locations)
Private Property Bore	Q2	-	MW4223	Off-Base (1 location)

^indicates well that applies to multiple locations.

Table 2 Planned Groundwater Gauging Locations

Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
Q1	MW2118, MW2156, MW2163, MW2171	MW4006, MW4028, MW4029, MW4030, MW4043, MW4047, MW4049, MW4046	On-Base (4 locations) Off-Base (8 locations)
Q2	MW2160, MW2164, MW2199, MW2195	MW4031, MW4032	On-Base (4 locations) Off-Base (2 locations)

Table 3 Planned Surface Water Sampling Locations

Location Description	On-Base locations	Off-Base locations	Number of locations
Upgradient locations	SW003, SW028	SW029, SW032 SW033	On-Base (2 locations) Off-Base (3 locations)
On-Base surface water drain network	SW006, SW017, SW018, SW019, SW021, SW050, SW054		On-Base (7 locations)
On-Base surface water exiting the Base	SW037		On-Base (1 location)
Helps Road Drain south of the Base boundary		SW009, SW010, SW011, SW012, SW062	Off-Base (5 locations)
Kaurna Park Wetland		SW058, SW059, SW078	Off-Base (3 locations)

2.4 Deviations from the SAQP

Deviations from the SAQP (AECOM, 2022) occurred during this sampling event, as outlined in **Table 4** below.

Table 4 Deviations from the SAQP during sampling event for Wet Season 2023

SAQP	July 2023 Sampling Event	Impact on OMP
Sampling of 21 surface water locations.	Of the 21 proposed surface water locations, three locations (SW019, SW021 and SW033) were not sampled due to insufficient water available for sampling.	The absence of data from these surface water locations does limit the assessment of surface water pathways for PFAS migrating from the Base and creates a data gap in the assessment of PFAS in surface water. However, as downgradient locations are able to be sampled, changes in PFAS concentrations in surface water are still tracked, minimising the impact of not collecting from these locations.
Sampling of 105 groundwater wells.	Of the 105 proposed groundwater wells, four locations (MW2116, MW2411, MW4027, MW4076) were sampled during July due to access issues. The following was observed during the July sampling event: • Wells MW4027 and MW4076 were observed to be flooded in the area above the Gatic cover and unable to be sampled at the time.MW2411 was observed to be buried approximately 0.5 metres below ground level (m bgl) due to being covered during	The four locations that were missed during the July 2023 sampling event were subsequently sampled during October 2023. It is noted that monitoring location MW2411 reported a historical high concentration of PFOS+PFHxS (15.2 µg/L), which had a previous high concentration of 5.29 µg/L in July 2020. The cause of this new historical high is yet to be determined and future sampling will need to occur to determine if this is part of an emerging trend or a one-time concentration spike.

	excavations in P4. The well was unable to be recovered. • MW2116 was observed to be buried by gravel during surfacing works and was unable to be recovered. • The following was observed during October ad hoc sampling event: • Wells MW4027 and MW4076 were not flooded and subsequently sampled • A standpipe was installed at MW2411 and subsequently sampled • MW2116 was uncovered and subsequently sampled	The other locations had PFAS concentrations reported within their respective historical ranges.
Hydrasleeve™, deployment depths	As per the SAQP, Hydrasleeves™, are to be deployed at depths within the screened interval of the wells, with the weight sitting one metre above the bottom of the well where practical. For the following wells the deployment depth was less that one metre: • MW2499 (0.86 m) • MW4068 (0.78 m)	Samples were collected within the screened interval therefore no material impact on the results are anticipated.
Bailer sample	The Hydrasleeve™ installed at MW2286 split while being retrieved for sampling. The well was sampled using a bailer and the Hydrasleeve™ was replaced and redeployed.	Groundwater was recovered from with screened section of MW2286, however it is likely that a mixture of groundwater from within the casing was mixed which is potentially unrepresentative of the aquifer water at the screened depth. Results for MW2286 fall within the expected historical concentrations of PFAS, limited reliance on this result is recommended.

3.0 Methodology

The methodology adopted for the biannual groundwater and surface water sampling events was in accordance with the SAQP (AECOM, 2022) (noting that deviations are captured in **Section 2.4** above) and is summarised below in **Table 5**.

Table 5 Sampling Methodology

Item	July 2023 Sampling Events
Groundwater gauging	The depth to groundwater was measured in each monitoring well using an interface probe; for wells in the sampling network, gauging was conducted immediately prior to collection of groundwater samples.
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater and surface water samples. **Groundwater** Groundwater field parameters for 98 of 101 wells were obtained after sampling by retrieving groundwater via Hydrasleeve™ samplers for measurement with a water quality meter. Groundwater field parameters for the remaining three wells were obtained after sampling by filling a decontaminated container with groundwater from supplied taps for measurement with a water quality meter. **Surface water** Surface water field parameters were obtained in-situ by measurement with a water quality meter. Field parameters and observations were collected on field sheets and electronically using AECOM's environmental data collection and analysis (EDCA) tool. Observations collected in the field are presented in table **T1** (groundwater) and **T3** (surface water) in **Appendix B**. Water quality meter calibration certificates are presented in **Appendix F**.
Sample collection	**Groundwater** Groundwater samples were collected from accessible monitoring wells using no-purge methodology via HydraSleeves™, with the exception of well MW2286 as it was sampled via bailer and wells MW4221, MW4222 and MW4223, which are permanently fitted with headworks and were sampled via a tap. HydraSleeves™ are installed within the screened interval with the weight positioned one metre above the base of the well for a minimum of 24 hours prior to the sampling round, and generally placed six months prior to retrieval. Placement within the screen is based on a review of the well construction log; screened intervals for each location are shown in **Table T1, Appendix B**. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples obtained from bailer sample were retrieved from within the screened section of the well. Screened intervals for each location are shown in **Table 1, Appendix B.** Once completed, new a new HydraSleeves™ was deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples obtained through a tap were collected by placing the laboratory sample bottle beneath the tap as a 'first flush' sample without pre-purging. **Surface water**

Item	July 2023 Sampling Events
	Surface water samples were collected from approximately 0.5m below the surface, when possible. When not possible samples were collected mid-way through the water column to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container was lowered into the water, using an aluminium sampling pole, with the cap immediately applied once the container was full. Field parameters were recorded in-situ, by lowering the water quality meter into the water body to a depth of approximately 0.1 metres below the water surface.
QA/QC samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples, field blank samples and trip blank samples. Refer to **Appendix C** for assessment of QA/QC sample data.
Sample analysis	Samples were submitted to the primary and secondary laboratories for analysis for a suite of 28 PFAS analytes at the standard LOR. Australian Laboratory Services Environmental (ALS) Sydney, New South Wales (NSW) was used as the primary laboratory. National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses were certified by the National Association of Testing Authorities. Chain of custody documents are presented in **Appendix D** and laboratory certificates are presented in **Appendix E**.

3.1 Adopted Screening Criteria

Screening criteria were selected on the basis of national guidance in the form of the PFAS NEMP 2.0 (HEPA, 2020), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

- Department of Health, 2019. Health based guidance values for PFAS for use in site investigations in Australia. April 2017 (as amended 2019) (Department of Health, 2019).
- Heads of the Environment Protection Authority (HEPA), 2020. PFAS NEMP 2.0. (HEPA, 2020).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water (NHMRC, 2019).
- National Environment Protection Council 1999, National Environment Protection (Assessment of Site Contamination) Measure, Amendment 1 2014 (ASC NEPM, 2013).

The screening criteria which have been adopted are presented **Table 6** below.

Table 6 Summary of Adopted Screening Criteria for groundwater and surface water

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			

Pathway	Compound	Criteria	Comment/Reference
Drinking water – groundwater	PFOS+ PFHxS	0.07 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020) are from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH utilised the TDI for PFOS and PFOA from FSANZ, 2017 and the methodology described in Chapter 6.3.3 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines (ADWG) 2016 to determine drinking water values. 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). *All groundwater results have been compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use	PFOS + PFHxS	2 µg/L	The values presented in the PFAS NEMP 2.0 (HEPA, 2020). In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events / year) to calculate an annual ingestion rate of 30 L per year. *All surface water results have been compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020). *All surface water results have been compared to these criteria.*
	PFOA	220 µg/L	

3.2 Data Quality Objectives and Data Validation

The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2022).

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

Data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are generally acceptably reliable for the purpose of this report. Elevated relative percent differences (RPD) for selected duplicate samples warrant caution in interpretation where reported concentrations are close to criteria.

An assessment of all monitoring locations analytical results was completed and the quality of the analytical data was considered acceptable. All data collected during this event has been reviewed and uploaded to the Defence Esdat database in accordance with DCMM (Department of Defence, 2021b) requirements.

4.0 Field Observations and Results

4.1 General Field Observations

The field observations presented in **Table 7 below** were applicable across the entirety of the sampling event.

Table 7 General Field Observations

Item	Observation
Weather conditions	Weather was observed to be varied between sampling dates with maximum temperatures ranging from 17.9°C to 15.6°C during the groundwater and surface water sampling events. Rainfall was observed on 6 and 7 July coinciding with surface water sampling, with 6.2 mm of rain recorded prior and during sampling. The monthly total rainfall for July was 20.8 mm (Edinburgh RAAF station, 023083) (Bureau of Meteorology, 2023). The observed weather conditions had no material impact on the sampling event.
Estate Management Works or Training Activities	No notable estate works, or training activities were observed in the vicinity of sampling locations with the exception of the following: • Flight training activities undertaken airside • Soil (Ventia) and groundwater (Enviropacific) remediation activity, i.e. soil washing and immobilisation and groundwater treatment • Airside exclusion zone was in place due to defence actives from the 8th of July excluding several airside wells. The results for this sampling event are generally consistent with previous rounds in areas where works are being undertaken, therefore, estate management activities or training activities that may have occurred prior to the sampling event do not appear to have had an impact on results for the July 2023 sampling event. The following were observed during the sampling event: • The exclusion zone put in place by Defence from July 8 for flight training works was expected to block access to wells MW2193, MW2194, MW2195, MW2148, MW2158 and MW2499. These sample locations collected prior to 8 July. • MW2411 was inferred to be buried approximately 1.0 metres below ground level (m bgl) due to being covered during excavation works as a part of the remediation project in P4. The well was unable to be accessed for sampling. All wells in the area have been observed to have PFAS concentrations consistent with the historical results and are generally stable, with the exception of MW2358 which has shown an increasing trend. MW2116 was inferred to be buried under gravel and was unable to be recovered for sampling. This location has been recovered as of the writing of this report. • The potential for remediation works in source area P9 (groundwater extraction for remediation and on-going soil remediation) affecting the results of the OMP will continue to be assessed in the Ongoing Monitoring Report for 2023.

4.2 Groundwater

4.2.1 Field Observations and Field Measurements

Groundwater field observations and measurements are presented in **Table 8** below.

Table 8 Groundwater observations and field measurements

Item	Observations and field measurements
Fieldwork dates	Groundwater sampling was completed between 7 - 14 July 2023 with additional sampling events on 17 and 27 July, and 27 October.
Access and sample collection	All monitoring wells were accessible during the July sampling event except for the following: • Bores MW4221, MW4222 and MW4223 were sampled from a tap; headworks or infrastructure present restricted access to gauge groundwater levels at these bores. • Bores MW4027 and MW4076 were flooded above top of gatic and subsequently were not sampled. • Bores MW2411 and MW2116 were buried as a result of recent excavation works. • The gatic at MW4028 was observed to be damaged, the PVC casing remained intact, however. A key obtained from DEW was required to access DEW bore MW4220. Council of Salisbury bores MW4221 and MW4222 required council escort for access. Monitoring wells MW4027, MW4076, MW2441 and MW2216 were sampled during an ad hoc sampling event in October.
Monitoring well network	The monitoring well network was generally in good condition and unchanged from the previous round. As noted in **Section 2.4**, MW2411 and MW2116 were observed to be buried due to being covered during the Ventia remediation works and were unable to be uncovered during the July sampling event. The following observations were made during an ad hoc sampling event in October: • Standpipe and monument were installed at MW2411 • Monitoring well MW2116 was uncovered and accessible.
Contamination Observations	No visible indications of contamination were observed during sampling. An organic odour was noted at wells MW2114, MW2157, MW2162, MW2173, MW2184, MW2209, MW2270, MW2394, MW2501, MW2528, MW4023, MW4024, MW4035, MW4045, MW4057, MW4058, MW4070, MW4071, MW4073, MW4074 and MW4075.

Item	Observations and field measurements
Depth to groundwater and flow direction	Standing water levels for each aquifer ranged between: • Q1: 5.035 (MW4064) and 15.411 (MW4218) metres Australian Height Datum (mAHD). • Q2: 5.955 (MW4045) and 14.484 (MW2216) mAHD. • Q3: 6.114 (MW4070) and 13.221 (MW2270) mAHD. • Q4: 5.364 (MW4078) and 11.285 (MW2284) mAHD. • T1: MW4220 was the only monitoring well available for gauging attributed to this aquifer, however, there is no top of casing (TOC) data available to calculate a corrected groundwater elevation. Groundwater gauging data is presented in **Table T1, Appendix B**. Inferred groundwater contours and groundwater flow directions at the Base are shown on **Figure 4.1**, **4.2**, **4.3** and **4.4** in **Appendix A**. Inferred groundwater contouring suggests that groundwater generally flows to the southwest across all quaternary aquifers, although with significant local variation in the Q1 aquifer associated with influence from surface water bodies. Insufficient data is available to generate groundwater contours for the T1 aquifer. These observations are generally consistent with previous collected groundwater data used for interpretation of groundwater flow direction.
Geochemical parameters	Groundwater geochemical parameters were measured after to collecting groundwater samples. The readings are presented in **Table T1** in **Appendix B**, and are summarised below: • Dissolved oxygen (mg/L): - Q1: 0.62 (MW2501) to 5.72 (MW2149) - Q2: 0.55 (MW4065) to 5.14 (MW4024) - Q3: 0.90 (MW2275) to 4.56 (MW4068) - Q4: 1.22 (MW2285) to 5.25 (MW4079) - T1: 1.73 (MW4221) to 2.20 (MW4220) • Electrical conductivity (µS/cm): - Q1: 662 (MW2131) to 22,231 (MW2175) - Q2: 959 (MW4048) to 26,391 (MW2176) - Q3: 1,547 (MW4068) to 11,033 (MW4071) - Q4: 2,150 (MW2286) to 14,598 (MW4078) - T1: 1,099 (MW4222) to 1,766 (MW4221) • pH: - Q1: 6.75 (MW2131) to 8.42 (MW4218) - Q2: 6.73 (MW2176) to 11.73 (MW2210) - Q3: 7.00 (MW2275) to 11.74 (MW2272) - Q4: 6.97 (MW4078) to 12.56 (MW4079) - T1: 7.51 (MW4220) to 7.87 (MW4221) • Redox (corrected) (mV): - Q1: -94.5 (MW2501) to 357 (MW2134) - Q2: -94.6 (MW2173, MW2210) to 273.9 (MW2183) - Q3: -14.8 (MW2272) to 328.6 (MW2281) - Q4: -105.5 (MW2284) to 227.7 (MW4078) - T1: -44.3 (MW4222) to 81.1 (MW4220)

4.2.2 PFAS Groundwater Analytical Results

The PFAS groundwater analytical results from the July and October 2023 sampling event are presented in **Table T2** in **Appendix B**. Of the 101 groundwater wells sampled during the July event, 74 samples reported concentrations of PFAS compounds above the laboratory LOR.

PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at six locations and 12,2000 µg/L (MW2116 sampled in October) and for off-Base locations ranged between below the laboratory LOR (<0.01) at 22 locations and 13.2 µg/L (MW4003).

PFOA concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 19 locations and 417 µg/L (MW2116 sampled in October) and for off-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 27 locations and 0.26 µg/L (MW4075).

New maximum values for PFOS+PFHxS were reported at MW2114, MW2120, MW2148, MW2175, MW2183, MW2185, MW2209, MW2281, MW4057, MW4072, MW4074 and MW4075.

New maximum values for PFOA were reported at MW2114, MW2120, MW2148, MW2281, MW4057 and MW4075.

All historical maximums remain within an order of magnitude of previous maximum and will be further evaluated in the upcoming ongoing monitoring report.

One new exceedance of the PFAS NEMP drinking water guideline was reported at on-Base location MW2134 (0.07 µg/L PFHxS). A sample from location MW2134 had previously exceeded the PFAS NEMP drinking water guidelines for PFOS+PFHxS. The exceedance is noted for the individual analyte and is not considered a new exceedance for the program.

Surface Water

4.2.3 Field Observations and Field Measurements

Surface water field observations and measurements are presented in **Table 9** below.

Table 9 Surface Water Observations and Field Measurements

Item	Description
Fieldwork Dates	Surface water sampling was completed on 7, 11 and 13 July 2023.
Access and sample collection	SW019, SW021 and SW033 had insufficient water for sampling, therefore no surface water was collected at these locations, as noted in **Section 2.1**. All other locations were suitable for sampling.
Contamination Observations	No obvious visible signs of contamination were observed.
Rainfall	The surface water sampling event on 7-13 July 2023 was undertaken following a rainfall event of 6.2 mm of rain recorded prior and during sampling. (Edinburgh RAAF station, 023083) (Bureau of Meteorology, 2023).
Surface Water Flow	During the July 2023 sampling event, it was noted that surface water generally flowed to the south and southwest within the drainage network. Sample locations where water was not evidently flowing were recorded at SW032, SW050, SW058 and SW059.
Geochemical Parameters	Surface water geochemical parameters were measured prior to collecting surface water samples in July 2023. The readings are presented in **Table T3** in **Appendix B**, and are summarised below: • Dissolved oxygen ranged from 2.37 mg/L (SW078) to 9.10 mg/L (SW018), indicating low to well oxygenated conditions. • Electrical conductivity ranged from 122 µS/cm (SW059) to 1575 µS/cm (SW078), indicating freshwater conditions. • pH ranged from 7.25 (SW017) to 8.48 (SW058). pH results indicate generally neutral to slightly basic conditions. • Redox (corrected) ranged from -105.5 mV (SW078) to 55.5 mV (SW017) indicating reducing to oxidising conditions.

4.2.4 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from the July 2023 sampling event are presented in **Table T4** in **Appendix B**. Of the 18 surface water sample locations sampled in July, 14 primary samples reported concentrations of PFAS compounds above the laboratory LOR.

Sum of PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at two locations and 0.09 µg/L (SW037) and for off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at two locations and 0.79 µg/L (SW078).

PFOA concentrations across on-Base locations were all reported below the laboratory LOR (<0.01 µg/L). PFOA concentrations at off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at nine locations and 0.02 µg/L (SW078).

New maximum values were reported at SW078 for PFOS+PFHxS (0.79 µg/L) and PFHxS (0.35 µg/L). One first-time detection above the LOR was recorded at SW078 for PFOA (0.02 µg/L) as visually represented in **Figure 5, Appendix A** and **Table 10** below. A new exceedance of the ecological screening criterion was reported at SW078 for PFOS (0.44 µg/L).

Table 10 Deviations from historical dataset

Deviation Type	Location	PFOS+PFHxS concentration (ug/L)		PFOS concentration (ug/L)		PFOA concentration (ug/L)	
		July 2023	Previous maximum	July 2023	Previous maximum	July 2023	Previous maximum
New exceedance of PFAS NEMP ecological screening criteria	SW078	0.79	0.13	0.44	0.1	0.02	<0.02
First time detection above LOR							

	Orange cells denote first time detection above the laboratory LOR
	Purple cells denote new exceedance of ecological screening criteria

5.0 Summary and Next Sampling Events

5.1 Summary of Monitoring Event

The biannual groundwater monitoring event was completed at the Base, publicly accessible land and on a private property within the Management Area between 7 and 14 July 2023. The program included:

- gauging and sampling of groundwater from 101 of monitoring wells and bores.
- gauging of an additional 18 monitoring wells.
- Surface water sampling at 18 locations.

Table 11 summarises the findings of the July 2023 sampling event and recommended actions.

Table 11 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	Three surface water locations (SW019, SW021 and SW033) were not sampled due to insufficient water for sampling.	Continue monitoring in accordance with the PFAS OMP.
Monitoring well network condition	The monitoring well network was generally in good condition.	Continue monitoring in accordance with the PFAS OMP.
Analytical Results	PFAS concentrations were recorded above the LOR at 74 of 101 sampled groundwater monitoring locations and at 14 of 18 sampled surface water monitoring locations.	No action required.
First-time detection of PFOA or PFOS+PFHxS in groundwater or surface water	**Groundwater** No first-time detections above the LOR were recorded for PFOA or PFOS+PFHxS. **Surface water** One first-time detection above the LOR was recorded for PFOA (0.02 µg/L at SW078).	Continue monitoring in accordance with the PFAS OMP. Further assessment will be provided in the ongoing monitoring report for 2023.
New exceedance of screening criteria.	**Groundwater** One new exceedance of the PFAS NEMP drinking water guideline was reported for PFHxS at on-base location MW2134 (0.07 µg/L). A sample from location MW2134 had previously exceeded the PFAS NEMP drinking water guidelines for PFOS+PFHxS. The exceedance is noted for the individual analyte and is not considered new exceedances for the program. **Surface water**	Continue monitoring in accordance with the PFAS OMP. Further assessment will be provided in the ongoing monitoring report for 2023.

Item	Comment	Recommended Actions
	New exceedance of the ecological screening criteria was reported for PFOS at SW078 (0.44 µg/L).	

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for January 2024.

5.3 Upcoming Ongoing Monitoring Report

The next ongoing monitoring report, encompassing all sampling events carried out in 2023 is scheduled to be delivered in the first half of 2024.

6.0 References

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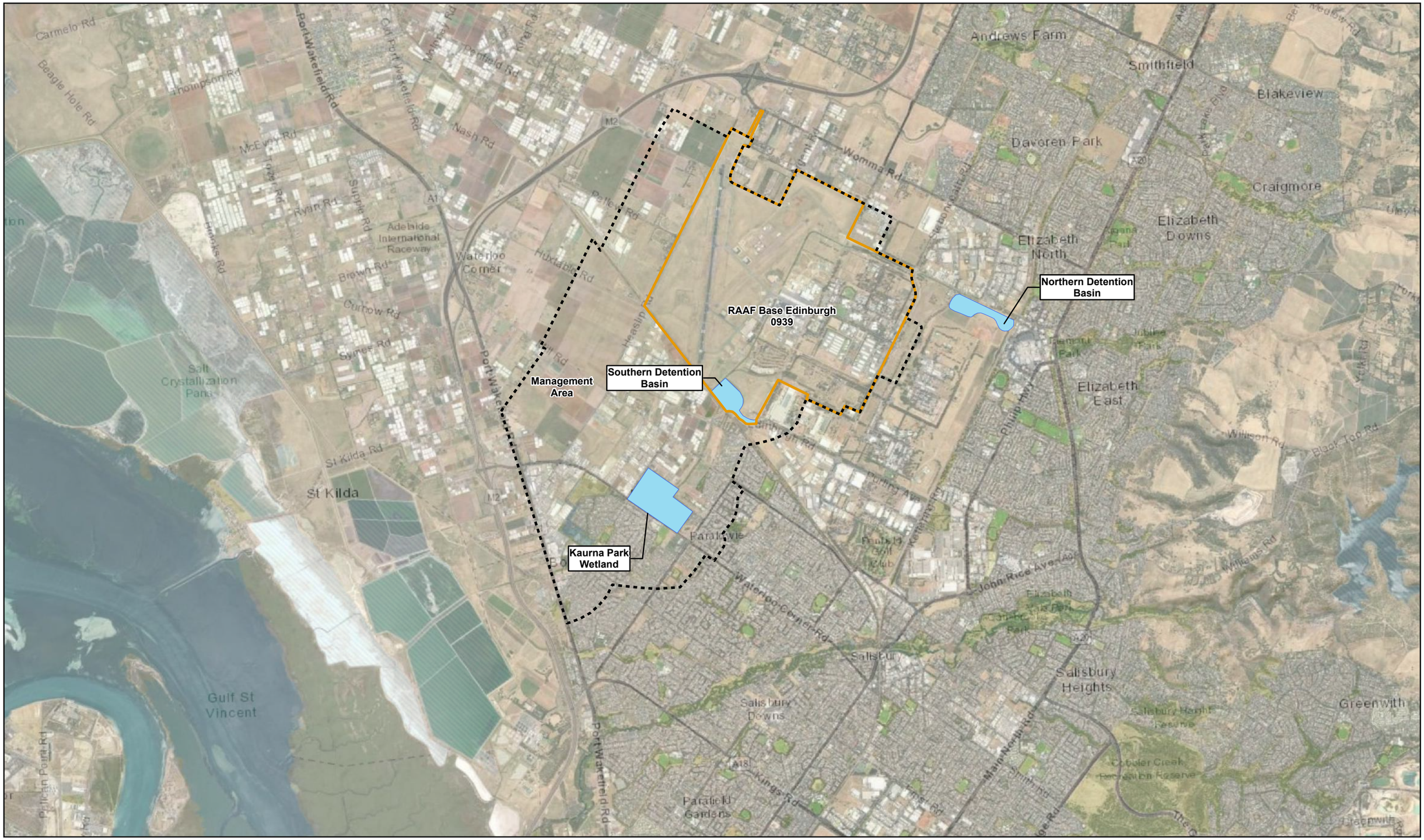
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Appendix A

Figures



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Kilometre

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LEGEND

- Detention Basin
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
PFAS Ongoing Monitoring Program, Wet Season 2023

SITE LOCATION

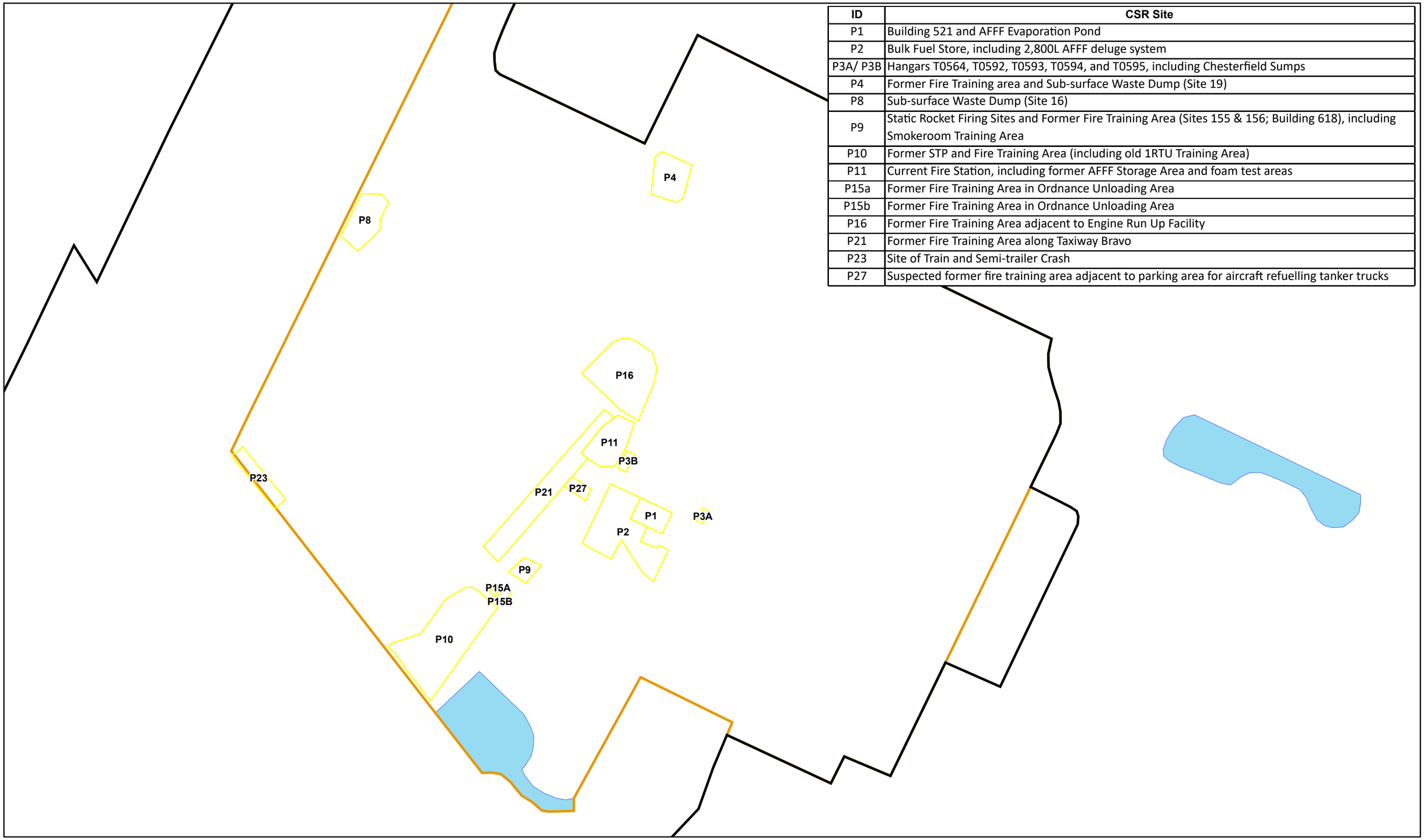
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CREATED BY	ROB.MCGREGOR
LAST MODIFIED	CUMMINGSL 24 AUG 2023
VERSION:	1

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A3 size

ID	CSR Site
P1	Building 521 and AFFF Evaporation Pond
P2	Bulk Fuel Store, including 2,800L AFFF deluge system
P3A/ P3B	Hangars T0564, T0592, T0593, T0594, and T0595, including Chesterfield Sumps
P4	Former Fire Training area and Sub-surface Waste Dump (Site 19)
P8	Sub-surface Waste Dump (Site 16)
P9	Static Rocket Firing Sites and Former Fire Training Area (Sites 155 & 156; Building 618), including Smokeroom Training Area
P10	Former STP and Fire Training Area (including old 1RTU Training Area)
P11	Current Fire Station, including former AFFF Storage Area and foam test areas
P15a	Former Fire Training Area in Ordnance Unloading Area
P15b	Former Fire Training Area in Ordnance Unloading Area
P16	Former Fire Training Area adjacent to Engine Run Up Facility
P21	Former Fire Training Area along Taxiway Bravo
P23	Site of Train and Semi-trailer Crash
P27	Suspected former fire training area adjacent to parking area for aircraft refuelling tanker trucks



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Metre

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LEGEND

- PFAS Source Area
- Detention Basin
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

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PFAS Ongoing Monitoring Program, Wet Season 2023

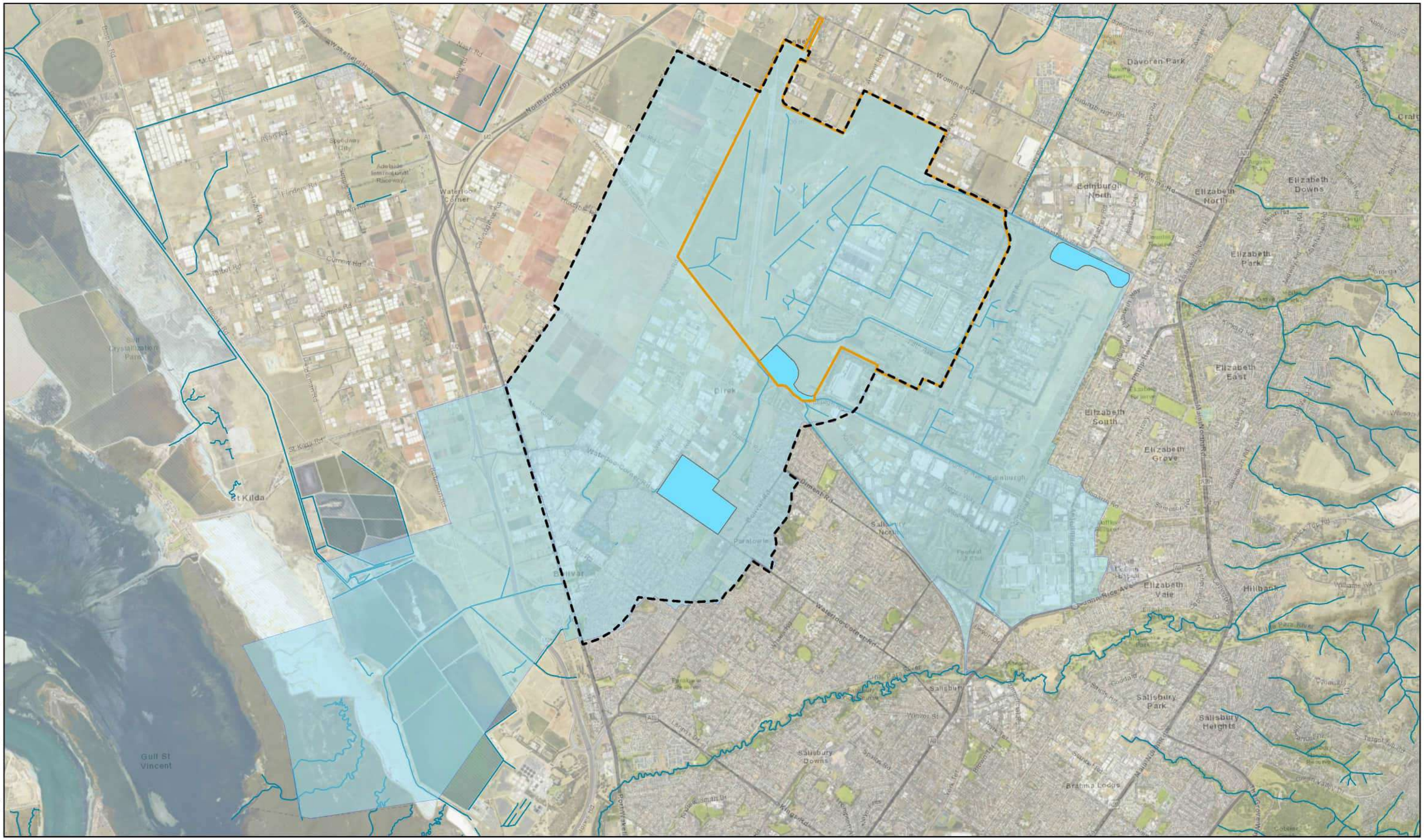
INFERRED PFAS SOURCE AREAS

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LAST MODIFIED	CUMMINGSL 24 AUG 2023
VERSION:	1

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LEGEND

- Management Area
- RAAF Base Edinburgh Boundary
- Refined Investigation Area
- Detention Basin
- Groundwater Prohibition Area
- Drainage Pathways

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP

PFAS Ongoing Monitoring Program, Wet Season 2023

GROUNDWATER PROHIBITION AREA

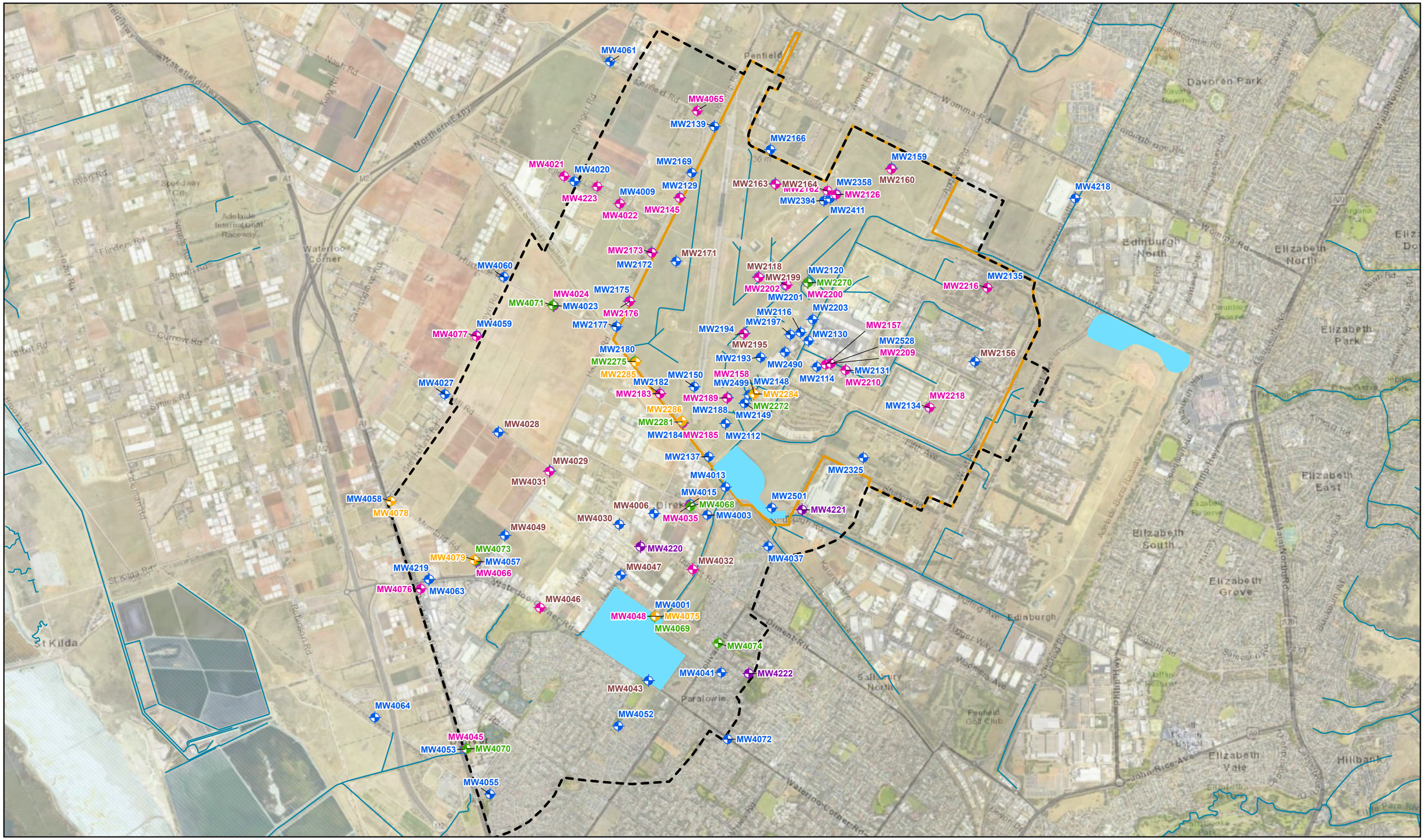
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Figure 1.3

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LEGEND

- Gauging Locations Only

Sample Locations

- Q1 Aquifer
- Q2 Aquifer
- Q3 Aquifer
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

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RAAF BASE EDINBURGH PFAS OMP
PFAS Ongoing Monitoring Program, Wet Season 2023

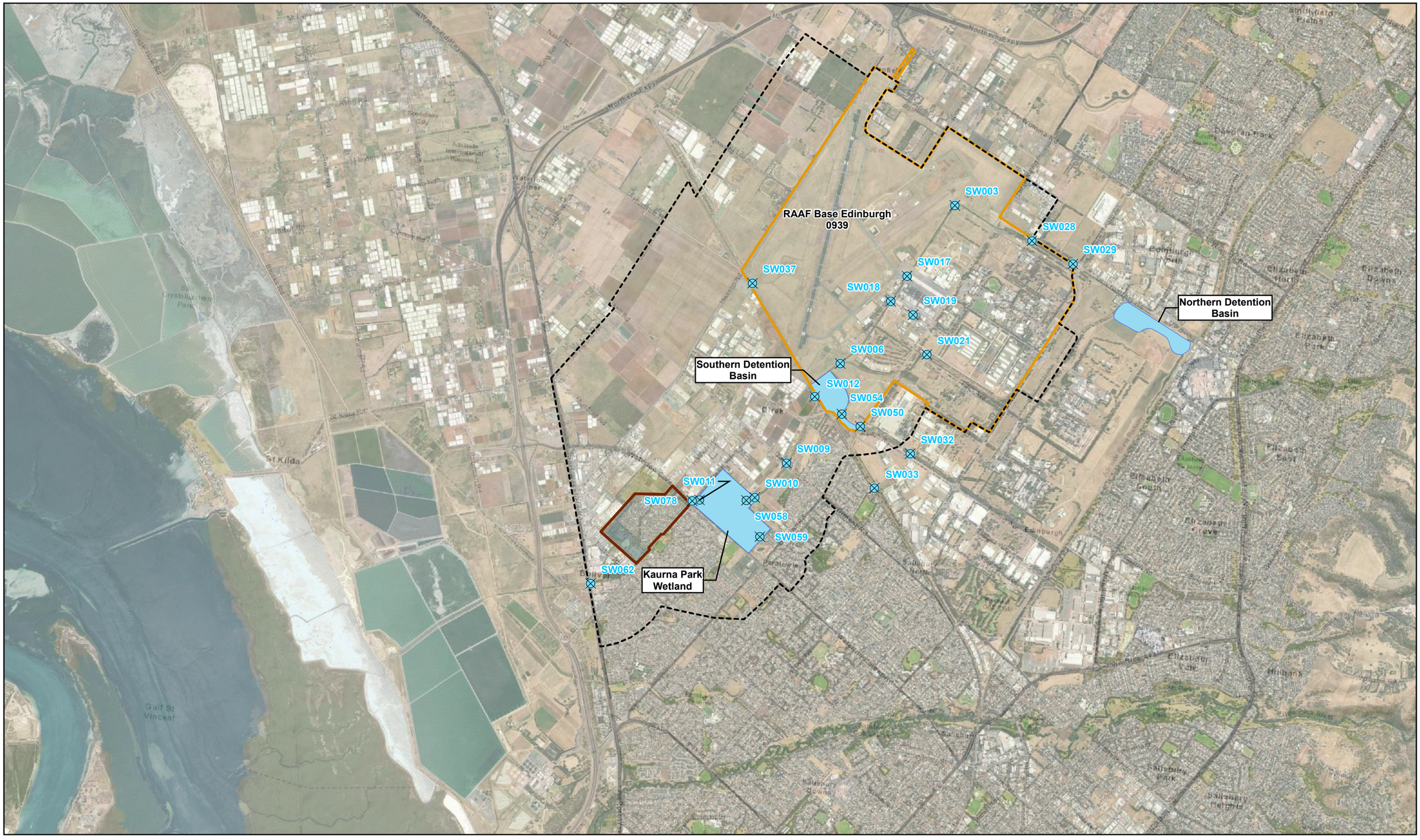
GROUNDWATER SAMPLE LOCATIONS

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Kilometre

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Legend

- Surface Water Sample Locations
- Detention Basin
- Springbank Waters Estate
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

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PFAS Ongoing Monitoring Program, Wet Season 2023

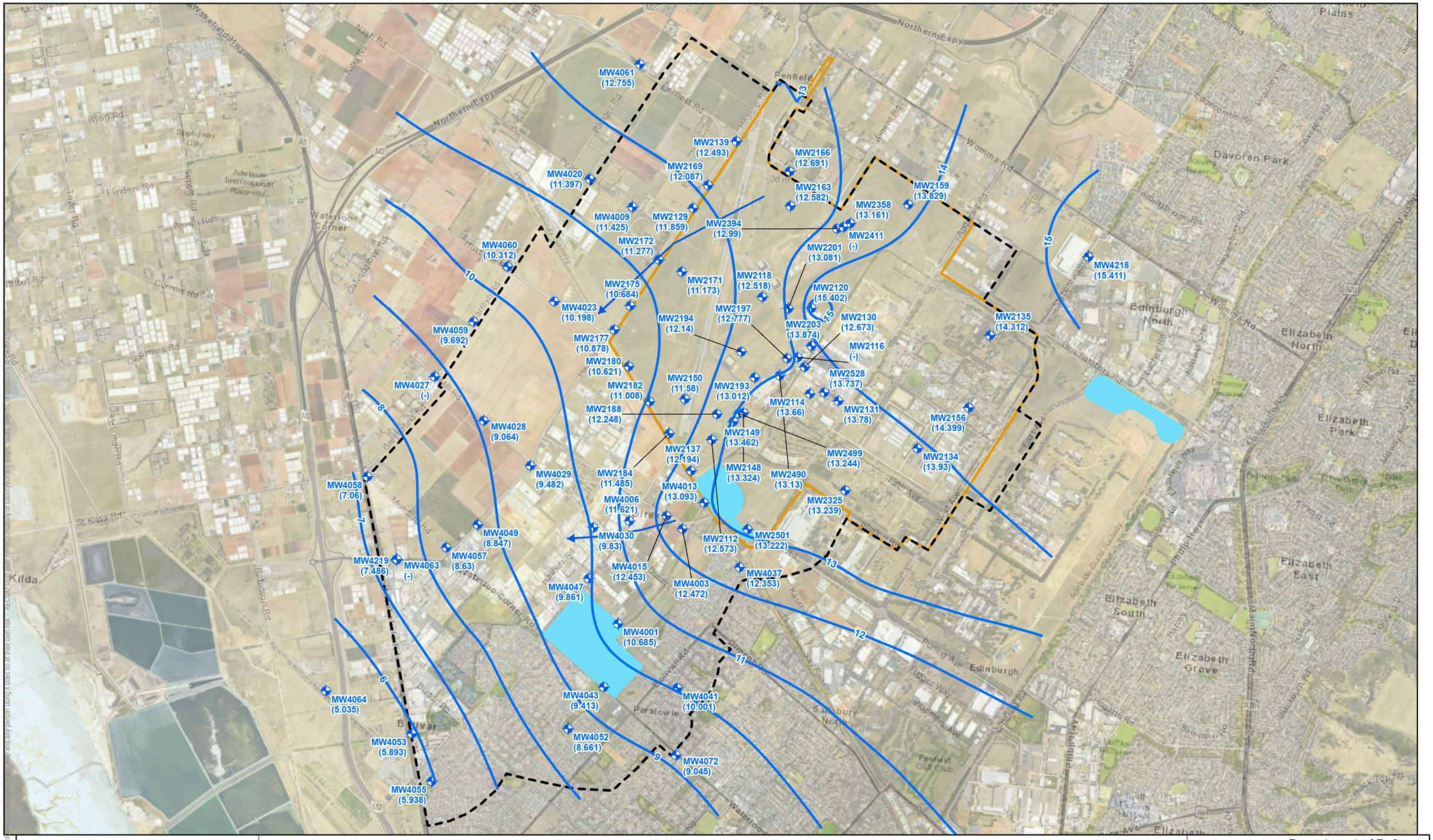
SURFACE WATER SAMPLE LOCATIONS

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LAST MODIFIED	CUMMINGSL 24 AUG 2023
VERSION:	1

Figure 3

A3 size

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0 0.5 1 2

Kilometre

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LEGEND

Sample Locations

- Q1 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation (metres Australian Height Datum)

Data sources:

Base Data: Imagery (c) 2017 ESRI

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PFAS Ongoing Monitoring Program, Wet Season 2023

INFERRED GROUNDWATER ELEVATION Q1 MONITORING WELLS

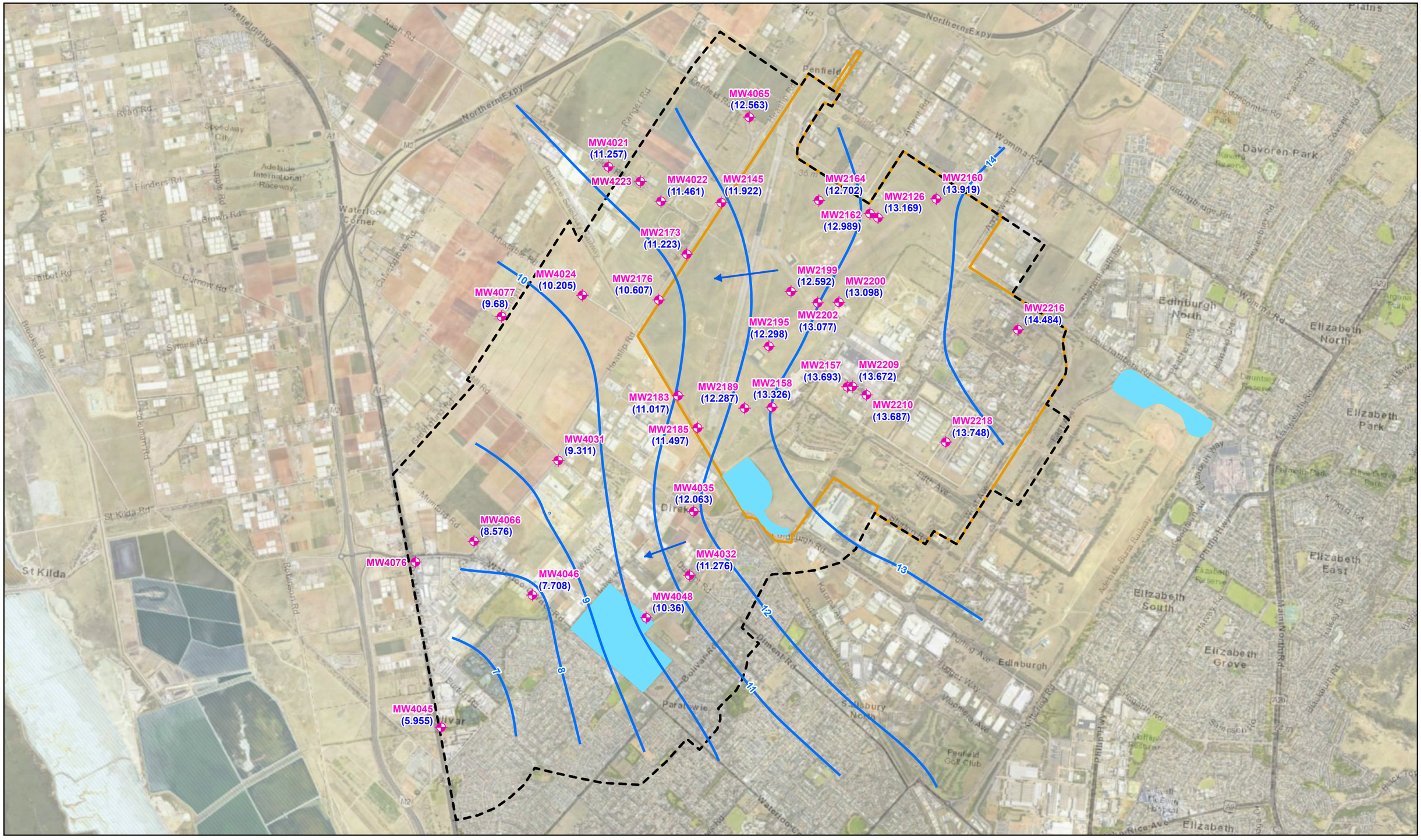
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Figure 4.1

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Kilometre

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LEGEND

Sample Locations

- Q2 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation (metres Australian Height Datum)

Data sources:

Base Data: Imagery (c) 2017 ESRI

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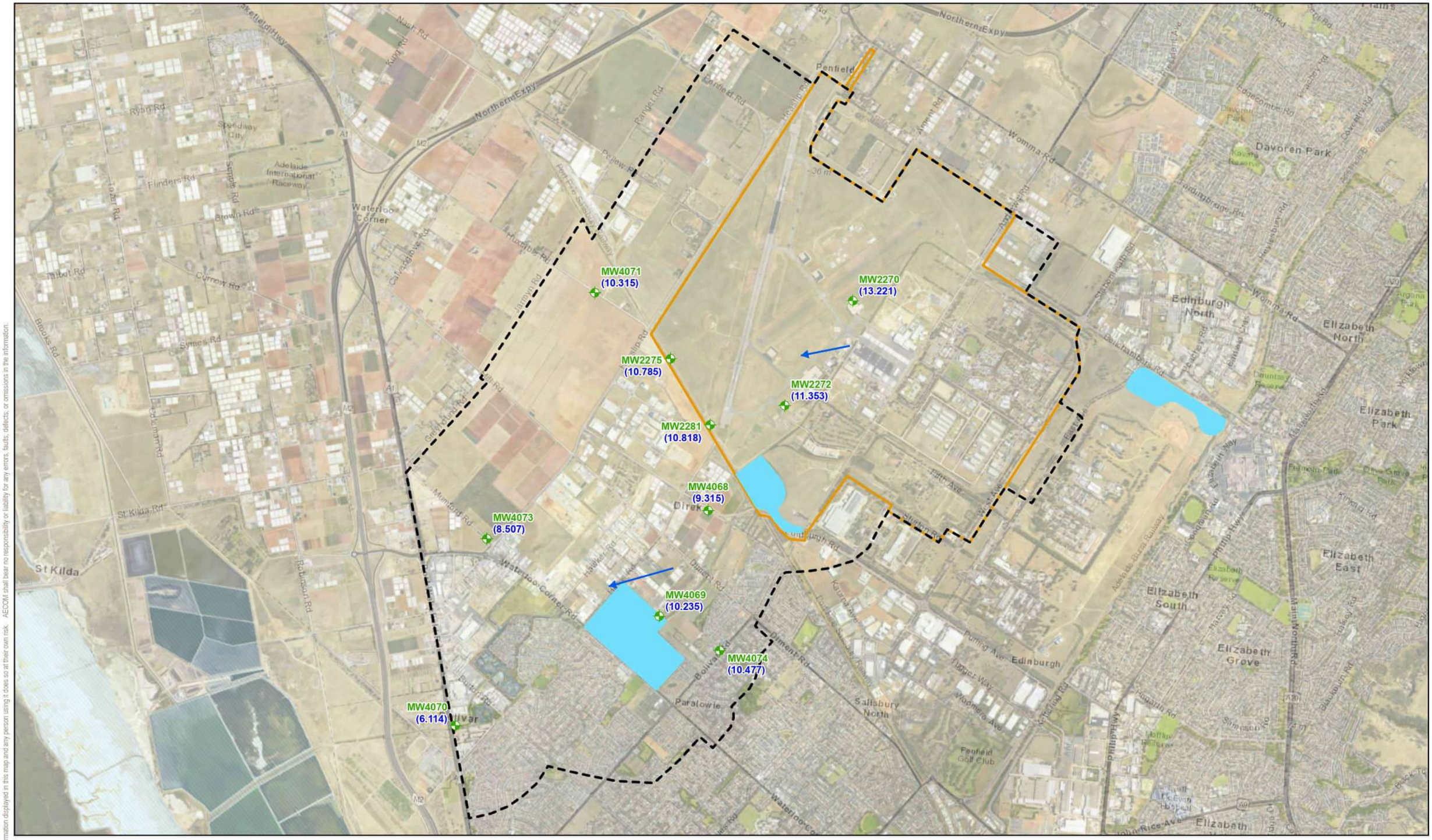
RAAF BASE EDINBURGH PFAS OMP

PFAS Ongoing Monitoring Program, Wet Season 2023

INFERRED GROUNDWATER ELEVATION Q2 MONITORING WELLS

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LAST MODIFIED	CUMMINGSL 25 AUG 2023
VERSION:	1

Figure 4.2



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Kilometre

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LEGEND

Sample Locations

- Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation (metres Australian Height Datum)

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

PFAS Ongoing Monitoring Program, Wet Season 2023

INFERRED GROUNDWATER ELEVATION Q3 MONITORING WELLS

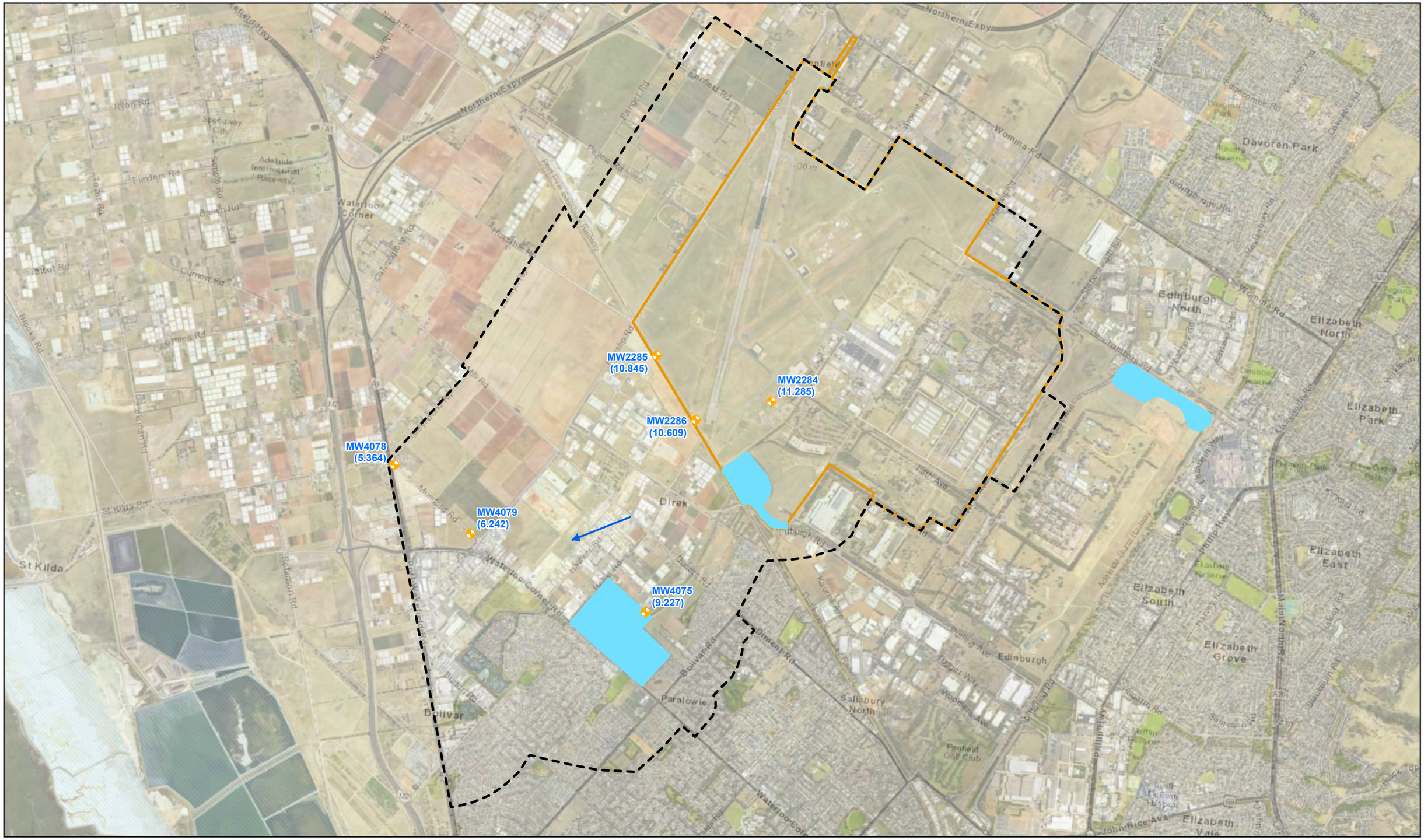
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CREATED BY	ROB.MCGREGOR
LAST MODIFIED	CUMMINGSL 25 AUG 2023
VERSION:	1

Figure 4.3

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LEGEND

Sample Locations

- Q4 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation (metres Australian Height Datum)

Data sources:

Base Data: Imagery (c) 2017 ESRI

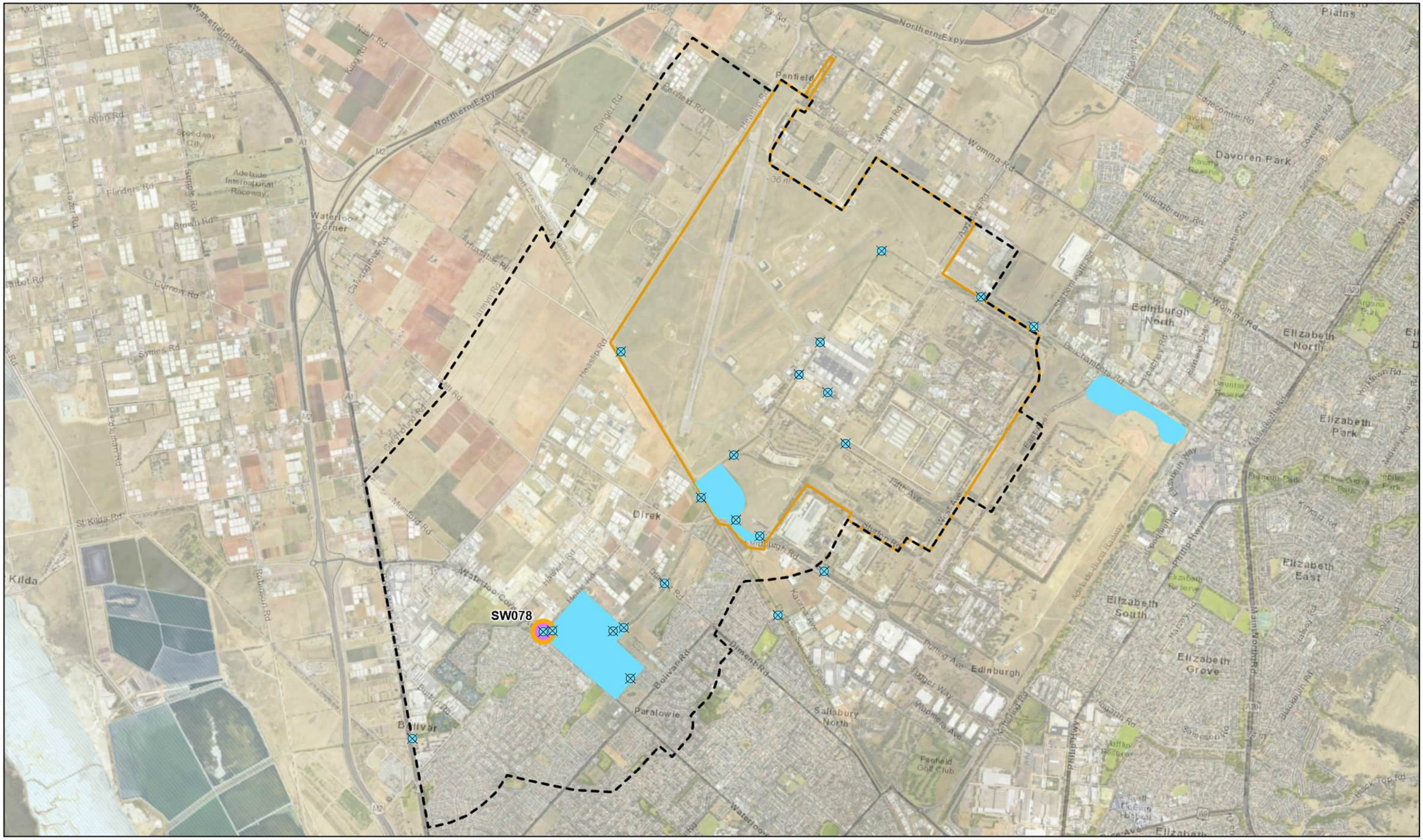
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
PFAS Ongoing Monitoring Program, Wet Season 2023
INFERRED GROUNDWATER ELEVATION Q4 MONITORING WELLS

PROJECT ID	60612561
CREATED BY	ROB.MCGREGOR
LAST MODIFIED	CUMMINGSL 25 AUG 2023
VERSION:	1

Figure 4.4

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LEGEND

- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin
- Surface Water Sample Locations
- Denotes First Time Detection Above LOR for PFOA
- Denotes New Exceedence of Ecological Screening Criteria

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

PFAS Ongoing Monitoring Program, Wet Season 2023

SURFACE WATER RESULTS DEVIATIONS FROM HISTORICAL DATA

PROJECT ID	60612561
CREATED BY	ROB.MCGREGOR
LAST MODIFIED	CUMMINGSL 25 AUG 2023
VERSION:	1

Figure 5

A3 size

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Filename: Project: \\na.aecomnet.com\ifs\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2023\01_PFAS_OMP\August_2023_01_PFAS_OMP.aprx (cummingsl), Layout: 2023_01_PFAS_OMP_Fig5_SWDevHistoricalData, Last exported: 25/08/2023 3:10 PM

Appendix B

Tables

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (field)	Redox Potential (Corrected)	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	(Eh)** (mV)	
MW2112	10/07/2023	Q1	8.49	5.34 - 8.34	15.877	3.304	12.573	Good condition.	6.01	8.10	841	546.65	2.51	17.5	-163.1	43.4	Colourless, Low turbidity, No odour.
MW2114	11/07/2023	Q1	9.00	5.86 - 8.86	17.697	4.037	13.660	Good Condition	6.90	6.95	12748	8286.2	1.33	19.3	-84.1	120.6	Colourless, Low turbidity, Slight Organic Odour.
MW2116	27/10/2023	Q1	8.40	6.03 - 9.03	16.978	3.895	13.083	Good Condition.	6.30	7.16	9730	6324.5	8.15	20.4	120.5	324.1	Light Brown, Medium turbidity, No odour
MW2118	7/07/2023	Q1	8.79	5.95 - 8.95	17.329	4.811	12.518	Good condition.	-							Gauge only	
MW2120	10/07/2023	Q1	6.22	3.25 - 6.25	18.180	2.778	15.402	Good condition.	4.20	7.66	1510	981.5	2.37	17.6	-93.7	112.7	Brown, low turbidity, no odour.
MW2126	10/07/2023	Q2	17.28	14.28 - 17.28	20.151	6.982	13.169	Good condition.	15.53	7.01	10093	6560.45	2.41	19.6	-23.3	181.1	Brown, low turbidity, no odour.
MW2129	10/07/2023	Q1	6.39	3.37 - 6.37	15.881	4.022	11.859	Good condition.	4.40	7.79	2888	1877.2	1.65	19.2	-65.5	139.3	Colourless, low turbidity, no odour.
MW2130	11/07/2023	Q1	8.22	5.38 - 8.38	17.483	4.810	12.673	Good Condition	6.38	8.23	2103	1366.95	0.78	18.7	-97.7	107.6	Colourless, Low turbidity, No odour.
MW2131	11/07/2023	Q1	8.55	5.45 - 8.45	18.058	4.278	13.780	Good Condition	6.51	8.42	662	430.3	3.01	19.9	-75.5	128.6	Colourless, Low turbidity, No odour.
MW2134	11/07/2023	Q1	10.80	7.83 - 10.83	19.716	5.786	13.930	Good Condition	8.89	6.81	10081	6552.65	1.26	20.1	153.1	357	Orange / Brown, Low turbidity, No odour.
MW2135	11/07/2023	Q1	11.00	7.97 - 10.97	20.504	6.192	14.312	Good Condition	9.80	7.01	7781	5057.65	0.71	20	-26.7	177.3	Orange / Brown, Low turbidity, No odour.
MW2137	10/07/2023	Q1	8.06	5.19 - 8.19	15.791	3.597	12.194	Good condition.	6.30	7.66	4110	2671.5	2.49	19.1	9.4	214.3	Colourless, Low turbidity, No odour.
MW2139	10/07/2023	Q1	11.30	8.33 - 11.33	18.653	6.160	12.493	Good condition.	9.35	6.91	11605	7543.25	1.41	20.4	26.1	229.7	Brown, low turbidity, no odour.
MW2145	10/07/2023	Q2	25.35	22 - 25	15.840	3.918	11.922	Good condition.	23.00	7.10	7870	5115.5	1.62	19.6	-220.4	-16	Colourless, low turbidity, no odour.
MW2148	12/07/2023	Q1	10.40	7.36 - 10.36	16.490	3.166	13.324	Good condition.	8.39	7.72	6025	3916.25	5.34	16.1	-7.9	200	Colourless, Low turbidity, No odour.
MW2149	7/07/2023	Q1	7.55	4.38 - 7.38	16.626	3.164	13.462	Good condition.	5.30	8.00	1936	1258.4	5.72	17.4	-62.1	144.5	Colourless, medium turbidity, no odour.
MW2150	7/07/2023	Q1	8.17	4.97 - 7.97	14.873	3.293	11.580	Good condition	6.06	7.70	1162	755.3	2.50	15.3	-74.4	134.3	Colourless, medium turbidity, no odour.
MW2156	11/07/2023	Q1	9.14	6.05 - 9.05	19.773	5.374	14.399	Good condition.	-							Gauge only	
MW2157	11/07/2023	Q2	18.50	15.23 - 18.23	17.777	4.084	13.693	Good Condition	16.44	7.32	8239	5355.35	0.71	19.8	-278	-73.8	Colourless, Low turbidity, Organic Odour.
MW2158	12/07/2023	Q2	17.80	14.85 - 17.85	16.498	3.172	13.326	Good Condition	16.47	7.81	6418	4171.7	2.40	20.1	-101.3	102.6	Colourless, Low turbidity, No odour.
MW2159	11/07/2023	Q1	10.59	5.5 - 8.5	20.478	6.649	13.829	Good Condition	7.43	7.15	9782	6358.3	1.40	18.9	11.2	216.3	Colourless, Low turbidity, No odour.
MW2160	11/07/2023	Q2	23.89	19.5 - 22.5	20.433	6.514	13.919	Good condition.	-							Gauge only	
MW2162	10/07/2023	Q2	20.98	17 - 21	19.721	6.732	12.989	Good condition.	19.23	7.06	10012	6507.8	0.88	19.3	-274.9	-70.2	Grey, low turbidity, organic odour.
MW2163	10/07/2023	Q1	9.31	5.5 - 8.5	18.161	5.579	12.582	Good condition.	-							Gauge only	
MW2164	10/07/2023	Q2	25.91	22.5 - 25.5	18.172	5.470	12.702	Good condition.	-							Gauge only	
MW2166	10/07/2023	Q1	8.75	5 - 8	19.063	6.372	12.691	Good condition.	6.10	7.13	14050	9132.5	1.94	18.2	-106	99.8	Brown, low turbidity, no odour.
MW2169	10/07/2023	Q1	8.00	4.5 - 7.5	16.608	4.521	12.087	Good condition.	6.25	7.11	9348	6076.2	1.66	19.7	2.2	206.5	Brown, low to medium turbidity, no odour.
MW2171	10/07/2023	Q1	10.05	6.2 - 9.5	16.471	5.298	11.173	Good condition.	-							Gauge only	
MW2172	10/07/2023	Q1	10.27	6.5 - 9.5	15.828	4.551	11.277	Good condition.	7.50	7.36	12147	7895.55	2.93	20.8	-86	117.2	Colourless, no turbidity, no odour.
MW2173	10/07/2023	Q2	20.35	16.5 - 21	15.882	4.659	11.223	Good condition.	18.63	6.98	26032	16920.8	0.62	20.1	-298.5	-94.6	Colourless, no turbidity, organic odour.
MW2175	10/07/2023	Q1	9.15	5.3 - 8.3	14.438	3.754	10.684	Good condition.	6.19	7.51	22231	14450.15	2.25	19.7	75.9	280.2	Light Brown, Low turbidity, No odour.
MW2176	10/07/2023	Q2	23.10	19.2 - 22.2	14.282	3.675	10.607	Good condition.	20.40	6.73	26391	17154.15	1.08	19.8	-166.5	37.7	Colourless, no turbidity, no odour.
MW2177	10/07/2023	Q1	7.82	4.2 - 7.2	13.902	3.024	10.878	Good condition.	5.27	8.09	4663	3030.95	5.42	18.4	-20.6	185	Orange, Low turbidity, No odour.
MW2180	10/07/2023	Q1	10.00	4 - 10	14.195	3.574	10.621	Good condition.	5.91	8.05	2896	1882.4	3.01	19.1	-77.1	127.8	Brown, low turbidity, no odour.
MW2182	10/07/2023	Q1	6.98	4.1 - 10	13.821	2.813	11.008	Good condition.	5.02	8.26	2344	1523.6	1.21	20.3	29.1	232.8	Brown, low turbidity, no odour.
MW2183	10/07/2023	Q2	19.70	16.2 - 20	14.831	3.814	11.017	Good condition.	17.92	7.05	13300	8645	1.71	19.8	69.7	273.9	Grey, Low turbidity, No odour.
MW2184	10/07/2023	Q1	6.10	3.2 - 8.3	14.438	2.953	11.485	Good condition.	4.14	8.13	1437	934.05	1.32	20	-222.9	-18.9	Black, low turbidity, slight organic odour
MW2185	10/07/2023	Q2	18.74	16.5 - 18	15.286	3.789	11.497	Good condition.	16.96	7.46	6883	4473.95	1.53	20.1	38.8	242.7	Brown, low turbidity, no odour.
MW2188	7/07/2023	Q1	5.51	2.5 - 5.5	15.460	3.212	12.248	Good condition	3.58	7.63	4888	3177.2	1.75	18.4	-13.5	192.1	Colourless, medium turbidity, no odour.
MW2189	7/07/2023	Q2	20.69	17 - 21	15.201	2.914	12.287	Good condition.	18.52	7.49	2978	1935.7	0.66	18.9	-264.1	-59	Colourless, medium turbidity, no odour.
MW2193	7/07/2023	Q1	6.42	3.5 - 6.5	15.918	2.906	13.012	Good condition.	4.42	7.79	3747	2435.55	1.04	18.6	-143.6	61.8	Colourless, Low turbidity, No odour.
MW2194	7/07/2023	Q1	9.34	7 - 10	15.310	3.170	12.140	Good condition.	7.40	7.27	15884	10324.6	1.39	16.9	-109.1	98	Colourless, medium turbidity, no odour.
MW2195	7/07/2023	Q2	23.21	19 - 24	16.050	3.752	12.298	Good condition.	-							Gauge only	
MW2197	7/07/2023	Q1	8.06	4.5 - 7.5	17.642	4.865	12.777	Good condition.	6.09	7.69	5630	3659.5	1.56	18.4	15.4	221	Colourless, Low turbidity, No odour.
MW2199	7/07/2023	Q2	23.95	20 - 24	17.177	4.585	12.592	Good condition.	-							Gauge only	
MW2200	10/07/2023	Q2	19.65	16.5 - 19.5	17.903	4.805	13.098	Good condition.	17.64	7.61	14769	9599.85	1.16	19.7	-287.4	-83.1	Colourless, Low turbidity, No odour.
MW2201	10/07/2023	Q1	9.82	7 - 10	16.395	3.314	13.081	Good condition.	7.85	7.33	1486	965.9	0.65	20.6	-215.2	-11.8	Black, low turbidity, no odour.
MW2202	10/07/2023	Q2	23.86	19 - 24	16.473	3.396	13.077	Good condition.	21.28	7.18	4007	2604.55	1.32	20.6	-214	-10.6	Black, medium turbidity, no odour.
MW2203	10/07/2023	Q1	7.85	5 - 8	16.772	2.898	13.874	Good condition.	5.90	8.34	1677	1090.05	3.97	19.7	-22.7	181.6	Colourless, no turbidity, no odour.
MW2209	11/07/2023	Q2	21.98	18.5 - 24	17.075	3.403	13.672	Good Condition	19.80	7.26	6161	4004.65	1.02	20.5	-264.2	-60.7	Colourless, Low turbidity, Organic Odour.
MW2210	11/07/2023	Q2	21.58	17.1 - 20.4	18.087	4.400	13.687	Good Condition	19.46	11.73	4798	3118.7	1.79	19.5	-298.5	-94	Colourless, Low turbidity, No odour.
MW2216	11/07/2023	Q2	21.88	18 - 21	20.468	5.984	14.484	Good Condition	19.22	7.08	5803	3771.95	1.60	19.4	-107.9	96.7	Colourless, Low turbidity, No odour.
MW2218	11/07/2023	Q2	21.26	17 - 20.5	19.774	6.026	13.748	Good Condition	19.20	7.55	6463	4200.95	2.59	19.6	64.7	269.1	Colourless, Low turbidity, No odour.
MW2270	10/07/2023	Q3	39.97	33 - 42	18.100	4.879	13.221	Good condition.	37.46	7.16	8452	5493.8	1.29	18.3	-191.4	14.3	Grey, low turbidity, organic odour.
MW2272	12/07/2023	Q3	42.10	36 - 42	16.499	5.146	11.353	Good Condition	40.90	11.74	6814	4429.1	2.48	18.9	-219.9	-14.8	Light Grey, Low turbidity, No odour.
MW2275	10/07/2023	Q3	47.80	40.5 - 46.5	14.121	3.336	10.785	Good condition.	46.12	7	7722	5019.3	0.90	19.8	-201.8	2.4	Colourless, no turbidity, no odour.
MW2281	10/07/2023	Q3	39.67	35.5 - 39	15.229	4.411	10.818	Good condition.	38.60	7.26	8780	5707	1.08	19.7	124.3	328.6	Colourless, low turbidity, no odour.
MW2284	12/07/2023	Q4	59.90	55 - 61	16.509	5.224	11.285	Good Condition	58.00	9.86	5061	3289.65	1.51	20.7	-308.8	-105.5	Light Grey, Medium turbidity, No odour.
MW2285	10/07/2023	Q4	58.00	51 - 57	14.287	3.442	10.845	Good condition.	56.00	7.34	3990	2593.5	1.22	20.1	-225.7	-21.8	Grey, Low turbidity, No odour.
MW2286	10/07/2023	Q4	52.34	51 - 57	15.323	4.714	10.609	Good condition.	51.30	10.27	2150	1397.5	1.57	20.1	-274.4	-70.5	Colourless, Low turbidity, No odour. Hydrasleeve split on extraction, bailer sampled.
MW2325	12/07/2023	Q1	10.90	7.9-10.9	19.127	5.888	13.239	Good Condition	8.95	7.03	8289	5387.85	0.71	19.4	-91.1	113.5	Colourless, Low turbidity, No odour.
MW2358	10/07/2023	Q1	11.03	8.01 - 11.01	20.062	6.901	13.161	Good condition.	9.00	7.07	9725	6321.25	2.73	20	-148.9	55.1	Colourless, low turbidity, no odour.
MW2394	10/07/2023	Q1	11.71	8.74 - 11.74	18.788	5.798	12.990	Good condition.	9.83	6.9	11681	7592.65	0.72	20.1	-250.7	-46.8	Black, medium turbidity, organic odour.
MW2411	17/10/2023	Q1	11.40	7.42 - 10.42	18.718	6.526	12.192	Good condition.	8.47	7.05	11025	7166.25	1.25	21.5	-213.1	-10.6	Light Grey, Low turbidity, Organic Odour
MW2490	11/07/2023	Q1	8.53	4.6 - 7.6	17.580	4.450	13.130	Good Condition	6.47	7.51	7603	4941.95	1.19	20.3	-151	52.7	Light Brown, Low turbidity, No odour.
MW2499	7/07/2023	Q1	7.92	6.06 - 9.06	15.769	2.525	13.244	Good condition.	7.06	7.79	1614	1049.1	4.10	18.3	-44.1	161.6	Colourless, Low turbidity, No odour.
MW2501	11/07/2023	Q1	10.75	7.61 - 10.61	15.673	2.451	13.222	Good Condition	8.62	7.67	3370	2190.5	0.62	19.2	-299.3	-94.5	Colourless, Low turbidity, Organic Odour.
MW2528	11/07/2023	Q1	9.00	6.06 - 9.06	17.181	3.444	13.737	Good Condition	7.18	7.8	1832	1190.8	2.29	20.1	-187.3	16.6	Colourless, Low turbidity, Slight Organic Odour.

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (field)	Redox Potential (Corrected)	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	(Eh)** (mV)	
MW4001	10/07/2023	Q1	9.55	6.56 - 9.56	12.909	2.224	10.685	Good condition.	7.67	8.2	1569	1019.85	3.49	18.7	-47.4	157.9	Orange/brown, low to medium turbidity, no odour.
MW4003	12/07/2023	Q1	7.83	4.63 - 7.63	13.460	0.988	12.472	Good Condition	5.82	7.51	6514	4234.1	1.79	19.7	35.9	240.2	Colourless, Low turbidity, No odour.
MW4006	12/07/2023	Q1	7.25	4.25 - 7.25	13.283	1.662	11.621	Good condition.	-							Gauge only	
MW4009	11/07/2023	Q1	21.80	6.5 - 9.5	14.370	2.945	11.425	Good Condition	6.81	7.28	7506	4878.9	4.09	20.1	-12.9	191	Colourless, Low turbidity, No odour.
MW4013	12/07/2023	Q1	5.00	3.95 - 6.95	13.123	0.030	13.093	Good Condition	3.00	7.89	5764	3746.6	1.81	19.3	-70.2	134.5	Light Brown, Low turbidity, No odour.
MW4015	13/07/2023	Q1	7.00	3.96 - 6.96	13.627	1.174	12.453	Good Condition	4.90	7.74	3960	2574	2.11	17.1	-67.1	139.8	Orange, Medium turbidity, No odour.
MW4020	11/07/2023	Q1	8.27	5.4 - 8.4	13.970	2.573	11.397	Good Condition	6.35	7.35	5683	3693.95	4.34	19.5	4.8	209.3	Colourless, Low turbidity, No odour.
MW4021	11/07/2023	Q2	17.85	15 - 18	13.697	2.440	11.257	Good Condition	16.05	6.97	5582	3628.3	2.07	20.3	-91.6	112.1	Colourless, Low turbidity, No odour.
MW4022	11/07/2023	Q2	21.80	19 - 22.5	14.423	2.962	11.461	Good Condition	19.80	7.32	3607	2344.55	1.11	20.2	-256.20	-52.4	Colourless, Low turbidity, No odour.
MW4023	10/07/2023	Q1	8.00	5 - 8	11.855	1.657	10.198	Good condition.	5.90	6.92	20357	13232.05	3.94	18.9	-14.6	190.5	Black, suspended sediments, medium turbidity, organic odour.
MW4024	10/07/2023	Q2	17.78	15 - 21	11.895	1.690	10.205	Good condition.	16.30	7.31	18380	11947	5.14	18.5	-59.1	146.4	Colourless, Low turbidity, Slight Organic Odour.
MW4027	27/10/2023	Q1	7.89	5 - 8	9.532	1.046	8.486	Good condition,.	5.97	6.86	3179	2066.35	5.34	19.5	-6	198.5	Clear, Low turbidity, No odour
MW4028	12/07/2023	Q1	7.92	5 - 8	10.396	1.332	9.064	Good condition.	-							Gauge only	
MW4029	13/07/2023	Q1	8.41	5.5 - 8.5	11.916	2.434	9.482	Good condition.	-							Gauge only	
MW4030	12/07/2023	Q1	8.37	5.3 - 8.5	11.755	1.925	9.830	Good condition.	-							Gauge only	
MW4031	13/07/2023	Q2	23.12	21 - 24	11.831	2.520	9.311	Good condition.	-							Gauge only	
MW4032	12/07/2023	Q2	19.50	16.5 - 19.5	12.948	1.672	11.276	Good condition.	-							Gauge only	
MW4035	10/07/2023	Q2	22.65	19 - 22.5	13.735	1.672	12.063	Good condition.	20.51	7.68	1132	735.8	3.75	18.4	-107.7	97.9	Colourless with black suspended sediment, low turbidity, organic odour.
MW4037	12/07/2023	Q1	8.15	5 - 8	15.193	2.840	12.353	Good Condition	6.07	7.42	5186	3370.9	2.61	19.4	-48.2	156.4	Colourless, Low turbidity, No odour.
MW4041	12/07/2023	Q1	10.10	7 - 10	14.606	4.605	10.001	Good Condition	8.07	7.01	4543	2952.95	1.33	18.4	54	259.6	Colourless, Low turbidity, No odour.
MW4043	12/07/2023	Q1	7.92	5 - 10	12.125	2.712	9.413	Good condition.	-							Gauge only	
MW4045	10/07/2023	Q2	19.00	15 - 18	7.328	1.373	5.955	Good condition.	16.34	7.74	3039	1975.35	3.64	19.1	-62.2	142.7	Colourless/grey, low turbidity, slight organic odour.
MW4046	12/07/2023	Q2	6.62	3.5 - 6.5	9.190	1.482	7.708	Good condition.	-							Gauge only	
MW4047	12/07/2023	Q1	8.52	5.5 - 8.5	11.657	1.796	9.861	Good condition.	-							Gauge only	
MW4048	10/07/2023	Q2	20.98	18 - 21	12.975	2.615	10.360	Good condition.	19.30	8.13	959	623.35	3.54	18.7	-39.9	165.4	Orange/brown, low turbidity, no odour.
MW4049	13/07/2023	Q1	8.40	5.5 - 8.5	10.643	1.796	8.847	Good condition.	-							Gauge only	
MW4052	12/07/2023	Q1	9.81	6.5 - 9.5	12.057	3.396	8.661	Good Condition	7.50	7.81	1096	712.4	1.79	18.8	-4.9	200.3	Orange, Medium turbidity, No odour.
MW4053	10/07/2023	Q1	4.29	5.25 - 8.5	7.450	1.557	5.893	Good condition.	6.20	8.12	2271	1476.15	4.70	18.4	29.3	234.9	Orange/brown, medium turbidity, no odour.
MW4055	12/07/2023	Q1	9.00	6 - 9	7.883	1.945	5.938	Good Condition	7.00	7.41	4175	2713.75	1.67	19.2	29.8	234.6	Colourless, Low turbidity, No odour.
MW4057	10/07/2023	Q1	8.00	5 - 8	9.429	0.799	8.630	Good condition.	6.00	7.67	6312	4102.8	3.33	18.3	-72.6	133.1	Brown, high turbidity, organic odour.
MW4058	10/07/2023	Q1	5.25	2.5 - 5.5	9.407	2.347	7.060	Good condition.	3.50	7.3	5913	3843.45	5.42	17.7	-47	159.3	Grey/black, low to medium turbidity, organic odour.
MW4059	11/07/2023	Q1	8.00	5 - 8	10.204	0.512	9.692	Good Condition	5.90	7.49	12970	8430.5	3.92	18.7	-31.2	174.1	Light Brown, Low turbidity, No odour.
MW4060	11/07/2023	Q1	7.00	3.9 - 6.9	11.386	1.074	10.312	Good Condition	4.50	7.66	4045	2629.25	1.15	18.6	-165.1	40.3	Light Brown, Low turbidity, No odour.
MW4061	11/07/2023	Q1	7.95	5 - 8	16.538	3.783	12.755	Good Condition	6.00	7.76	2547	1655.55	0.91	19.9	-65.8	138.3	Light Grey, Low turbidity, No odour.
MW4064	12/07/2023	Q1	7.81	5 - 8	5.885	0.850	5.035	Good Condition	5.80	7.66	5787	3761.55	3.25	18.5	-31.2	174.3	Colourless, Low turbidity, No odour.
MW4065	11/07/2023	Q2	20.04	17 - 20	17.754	5.191	12.563	Good Condition	18.30	7.27	4097	2663.05	0.55	20.4	-169.8	33.8	Orange / Brown, Low turbidity, No odour.
MW4066	10/07/2023	Q2	18.00	15 - 18	9.478	0.902	8.576	Good condition.	16.00	7.66	10905	7088.25	3.92	17.7	63.7	270	Yellow-brown, low turbidity, no odour.
MW4068	10/07/2023	Q3	44.60	42 - 45	13.749	4.434	9.315	Good condition.	43.82	10.96	1547	1005.55	4.56	18.5	-28.3	177.2	Colourless, Low turbidity, No odour.
MW4069	10/07/2023	Q3	-	31.5 - 36	12.920	2.685	10.235	Good condition.	33.25	7.32	2252	1463.8	3.86	19.0	29.2	234.2	Orange/brown, medium to high turbidity, no odour.
MW4070	10/07/2023	Q3	45.00	30 - 45	7.311	1.197	6.114	Good condition.	43.00	7.47	2042	1327.3	3.51	18.9	-75.7	129.4	Colourless/grey, low turbidity, organic odour.
MW4071	10/07/2023	Q3	29.60	27 - 30	12.009	1.694	10.315	Good condition.	27.00	7.69	11033	7171.45	4.01	18.9	-203.7	1.4	Colourless/grey, low turbidity, organic odour.
MW4072	12/07/2023	Q1	13.90	10 - 13	17.147	8.102	9.045	Good Condition	10.99	7.42	2106	1368.9	2.31	18.9	-62.1	143	Orange, Low turbidity, No odour.
MW4073	10/07/2023	Q3	-	40.5 - 43.5	9.458	0.951	8.507	Good condition.	41.50	8.33	8831	5740.15	4.27	18.2	-87.9	117.9	Colourless with suspended organic matter, low turbidity, organic odour.
MW4074	10/07/2023	Q3	39.00	33 - 39	14.060	3.583	10.477	Good condition.	37.53	8.26	2097	1363.05	3.46	18.9	-202.3	2.8	Grey/black suspended sediment, medium turbidity, organic odour.
MW4075	10/07/2023	Q4	-	45 - 48	13.059	3.832	9.227	Good condition.	46.12	7.21	11571	7521.15	3.74	18	-122.8	83.2	Grey/black suspended sediment, low turbidity, organic odour.
MW4076	27/10/2023	Q2	-	15 - 18	7.942	1.333	6.609	Good condition.	15.91	6.7	1584	1029.6	3.86	20.9	-183.4	19.7	Black, Medium turbidity, No odour
MW4077	11/07/2023	Q2	18.00	15 - 18	10.232	0.552	9.680	Good Condition	15.95	6.97	13190	8573.5	0.61	18.9	-172.9	32.2	Colourless, Low turbidity, No odour.
MW4078	10/07/2023	Q4	53.20	51 - 54	9.537	4.173	5.364	Good condition.	52.00	6.97	14598	9488.7	4.53	15.4	69.1	277.7	Colourless, Low turbidity, No odour.
MW4079	10/07/2023	Q4	57.01	52.5 - 57	9.505	3.263	6.242	Good condition.	55.00	12.56	10408	6765.2	5.25	18.2	-47.6	158.2	Colourless, Low turbidity, No odour.
MW4218	11/07/2023	Q1	9.70	7 - 10	21.857	6.446	15.411	Good Condition	8.50	6.75	18316	11905.4	2.01	16.73	-151.4	55.87	Colourless, Low turbidity, No odour.
MW4219	12/07/2023	Q1	8.50	5.5 - 8.5	8.978	1.492	7.486	Good Condition	6.50	7.51	8830	5739.5	3.06	20.8	49.7	252.9	Colourless, Low turbidity, No odour.
MW4220	12/07/2023	T1	105.00	94 - 107	-	4.287	-	Key from DEW required for access	103.00	7.51	1506	978.9	2.20	20.3	-122.6	81.1	Grey, Low turbidity, No odour.
MW4221	12/07/2023	T1	-	96 - 110	-	-	-		-	7.87	1766	1147.9	1.73	15.8	-162.8	45.4	Colourless, Low turbidity, No odour.
MW4222	12/07/2023	T1	-	102 - 120	-	-	-		-	7.82	1099	714.35	1.94	18.7	-161	44.3	Colourless, Low turbidity, No odour.
MW4223	14/07/2023	Q2	-	23.8 - 27	-	-	-	Good condition, private bore	-	7.21	4495	2921.75	2.71	20	-91.2	112.8	Colourless, Low turbidity, No odour.

Notes:
m AHD: metres above Australian Height Datum
m BTOC: metres Below Top Of Casing
°C: Degrees Celsius
mg/L: Milligrams per litre (ppm w/v)
mV: Millivolts
µS/cm: Micro Siemens per centimetre
EC: Electrical Conductivity
* Approximate value determined using the following equation: TDS (mg/L) = EC x 0.65
- : no data
** Redox potential (Eh) conversion based on Ag/AgCl KCl saturated/4M reference electrode

Table T2: Groundwater Analytical Results

						Per- and Poly-fluoroalkyl Substances																																	
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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	µg/L	µg/L
LOR						0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	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	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.07**	**0.56**	**0.07**																												**0.07**	
Location Code	**Field ID**	**Sampled Date**	**Aquifer**	**Sample Type**	**Lab Report Number**																																
MW2112	0939_MW2112_230710	10/07/2023	Q1	Primary	EM2312858-AE	**3.09**	0.07	**0.85**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.02	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**3.94**	4.41
MW2114	0939_MW2114_230711	11/07/2023	Q1	Primary	EM2312858-AE	**525**	**56.1**	**309**	<0.05	2.24	0.18	<0.05	<0.04	<0.04	<0.09	74.1	23.6	0.24	113	38.8	28.8	0.13	<0.04	<0.04	74.9	10.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**834**	1260
	0939_QC106_230711			Intralab Duplicate	EM2312858-AE	**546**	**57.6**	**315**	<0.05	2.48	0.22	<0.05	<0.04	<0.04	<0.09	74.7	24	0.23	118	40	31	0.15	<0.04	<0.04	76.6	13	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**861**	1300
	0939_QC206_230711			Interlab Duplicate	RN1400590	**430**	**52**	**340**	<0.01	2.1	0.19	<0.01	<0.01	<0.02	<0.02	66	23	0.14	120	31	25	<0.01	<0.01	<0.01	80	23	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**613**	1192
MW2116	0939_MW2116_231027	27/10/2023	Q1	Primary	EM2319686	**6230**	**417**	**6010**	<0.36	0.4	<0.36	<0.36	<0.36	<0.36	<0.9	922	219	2.4	996	576	181	1.43	<0.36	<0.36	534	30.4	<0.9	<0.9	<0.9	<0.9	<0.36	4.45	**12,200**	16,100
MW2120	0939_MW2120_230710	10/07/2023	Q1	Primary	EM2312858-AE	**333**	**23**	**280**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	36	11.2	0.15	61	24.2	8.68	0.56	<0.04	<0.04	29.7	3.6	<0.09	<0.09	<0.09	<0.09	<0.04	0.74	<0.04	**613**	812
MW2126	0939_MW2126_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.46**	0.03	**0.61**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.02	<0.02	0.16	0.04	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.07**	1.49
MW2129	0939_MW2129_230710	10/07/2023	Q1	Primary	EM2312858-AE	**8.08**	**1.45**	**25.2**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.92	0.31	<0.02	2.98	0.66	0.36	<0.02	<0.02	<0.02	0.25	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**33.3**	40.2
MW2130	0939_MW2130_230711	11/07/2023	Q1	Primary	EM2312858-AE	**129**	**5.99**	**30.9**	<0.05	0.18	0.26	<0.05	<0.02	<0.02	<0.05	4.51	3.64	0.16	16.1	3.68	2.67	0.96	<0.02	0.09	4.21	1.6	<0.05	<0.05	<0.05	<0.05	<0.02	0.3	<0.02	**160**	204
MW2131	0939_MW2131_230711	11/07/2023	Q1	Primary	EM2312858-AE	**192**	**4.73**	**10.7**	<0.05	0.52	0.15	<0.05	<0.02	<0.02	<0.05	1.27	2.53	0.13	7.17	1.73	1.3	0.46	<0.02	0.04	0.65	0.8	<0.05	<0.05	<0.05	<0.05	<0.02	2.23	<0.02	**203**	226
MW2134	0939_MW2134_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	**0.07**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.07**	0.07
MW2135	0939_MW2135_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2137	0939_MW2137_230710	10/07/2023	Q1	Primary	EM2312858-AE	**11.1**	0.32	**14.1**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.12	0.23	<0.02	1.81	0.61	0.14	<0.02	<0.02	<0.02	0.97	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**25.2**	31.4
MW2139	0939_MW2139_230710	10/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.15**	0.15
MW2145	0939_MW2145_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.82**	0.03	**0.67**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.15	0.04	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.49**	1.89
MW2148	0939_MW2148_230712	12/07/2023	Q1	Primary	EM2312858-AE	**755**	**53.3**	**620**	<0.05	0.06	<0.05	<0.05	<0.04	<0.04	<0.09	101	23.8	0.3	117	67.2	21.2	0.18	<0.04	<0.04	75.2	8.1	<0.09	<0.09	<0.09	<0.09	<0.04	0.31	<0.04	**1380**	1840
MW2149	0939_MW2149_230707	7/07/2023	Q1	Primary	EM2312858-AE	**227**	**9.43**	**92.6**	<0.05	0.17	<0.05	<0.05	<0.04	<0.04	<0.09	9.51	3.3	0.09	16.8	12.5	2.99	<0.04	<0.04	<0.04	7.34	1	<0.09	<0.09	<0.09	<0.09	<0.04	0.36	<0.04	**320**	383
MW2150	0939_MW2150_230707	7/07/2023	Q1	Primary	EM2312858-AE	**9.61**	0.08	**2.71**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.05	<0.02	0.31	0.17	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12.3**	13.2
MW2157	0939_MW2157_230711	11/07/2023	Q2	Primary	EM2312858-AE	**12**	0.31	**4.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.6	0.18	<0.02	0.98	0.48	0.13	<0.02	<0.02	<0.02	0.44	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**16.3**	19.4
MW2158	0939_MW2158_230712	12/07/2023	Q2	Primary	EM2312858-AE	**887**	**40.4**	**318**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	57.5	22.4	0.24	110	33.6	19.2	0.14	<0.04	<0.04	53.6	7.6	<0.09	<0.09	<0.09	<0.09	<0.04	0.47	<0.04	**1200**	1550
MW2159	0939_MW2159_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2162	0939_MW2162_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.13**	<0.01	**0.29**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.42**	0.52
	0939_QC103_230710			Intralab Duplicate	EM2312858-AE	**0.14**	<0.01	**0.29**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.43**	0.54
	0939_QC203_230710			Interlab Duplicate	RN1400590	**0.11**	<0.01	**0.31**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.023	<0.02	<0.01	0.037	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.42**	0.50
MW2166	0939_MW2166_230710	10/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2169	0939_MW2169_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.13**	<0.01	**0.47**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.6**	0.74
MW2172	0939_MW2172_230710	10/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.12**	0.15
MW2173	0939_MW2173_230710	10/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2175	0939_MW2175_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.07**	0.01	**0.64**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.71**	0.92
MW2176	0939_MW2176_230710	10/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2177	0939_MW2177_230710	10/07/2023	Q1	Primary	EM2312858-AE	**1.47**	0.04	**0.82**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.02	<0.02	0.14	0.07	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.29**	2.64
	0939_QC102_230710			Intralab Duplicate	EM2312858-AE	**1.58**	0.04	**0.81**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.02	<0.02	0.12	0.07	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.39**	2.72
	0939_QC202_230710			Interlab Duplicate	RN1400590	**1.5**	0.028	**0.79**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.037	<0.02	<0.01	0.11	0.046	<0.01	<0.01	<0.01	<0.01	0.024	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**2.29**	2.54
MW2180	0939_MW2180_230710	10/07/2023	Q1	Primary	EM2312858-AE	**35**	**5.7**	**35.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.4	0.81	0.07	5.68	3.82	0.63	<0.02	<0.02	<0.02	0.44	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.06	<0.02	**70.3**	89.1
MW2182	0939_MW2182_230710	10/07/2023	Q1	Primary	EM2312858-AE	0.06	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.09**	0.09
MW2183	0939_MW2183_230710	10/07/2023	Q2	Primary	EM2312858-AE	**4.22**	0.13	**2.34**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.07	<0.02	0.38	0.2	0.05	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**6.56**	7.93
MW2184	0939_MW2184_230710	10/07/2023	Q1	Primary	EM2312858-AE	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.08**	0.08
MW2185	0939_MW2185_230710	10/07/2023	Q2	Primary	EM2312858-AE	**8.75**	0.22	**4.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.55	0.11	<0.02	0.55	0.36	0.09	<0.02	<0.02	<0.02	0.38	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**13**	15.3
MW2188	0939_MW2188_230707	7/07/2023	Q1	Primary	EM2312858-AE	**202**	**5.98**	**95.9**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	11.7	2.1	<0.04	19.7	6.44	2.36	<0.04	<0.04	<0.04	10.2	1	<0.1	<0.1	<0.1	<0.1	<0.04	0.04	<0.04	**298**	357
MW2189	0939_MW2189_230707	7/07/2023	Q2	Primary	EM2312858-AE	**300**	**8.67**	**109**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.09	16.1	3.26	0.04	26.8	9.76	3.69	0.04	<0.03	<0.03	14.7	1.8	<0.09	<0.09	<0.09	<0.09	<0.03	0.09	<0.03	**409**	494
MW2193	0939_MW2193_230707	7/07/2023	Q1	Primary	EM2312858-AE	**47.9**	**1.6**	**30.9**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.95	1.51	<0.02	7.69	1.47	0.83	0.09	<0.02	<0.02	3.67	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	<0.02	**78.8**	101
MW2194	0939_MW2194_230707	7/07/2023	Q1	Primary	EM2312858-AE	**0.63**	0.02	**0.35**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.06	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.98**	1.15

Table T2: Groundwater Analytical Results

						Per- and Poly-fluoroalkyl Substances																																	
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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	µg/L	µg/L
LOR						0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	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	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.07**	**0.56**	**0.07**																												**0.07**	
Location Code	**Field ID**	**Sampled Date**	**Aquifer**	**Sample Type**	**Lab Report Number**																																
MW2197	0939_MW2197_230707	13/07/2023	Q1	Primary	EM2312858-AE	**415**	**12.8**	**164**	<0.05	0.17	<0.05	<0.05	<0.04	<0.04	<0.09	21.9	4.62	0.09	35.9	15	5.43	0.2	<0.04	<0.04	20.4	2.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.26	<0.04	**579**	698
MW2200	0939_MW2200_230710	10/07/2023	Q2	Primary	EM2312858-AE	**42.4**	**2.84**	**44**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	6.47	1.88	<0.02	8.78	2.08	1.4	<0.02	<0.02	<0.02	5.68	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**86.4**	116
MW2201	0939_MW2201_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.2**	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.26**	0.26
MW2202	0939_MW2202_230711	10/07/2023	Q2	Primary	EM2312858-AE	**0.09**	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.11**	0.11
MW2203	0939_MW2203_230710	10/07/2023	Q1	Primary	EM2312858-AE	**308**	**4.48**	**61.2**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	6.9	1.7	<0.04	14.2	4.5	1.95	<0.04	<0.04	<0.04	6.16	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	<0.04	**369**	410
	0939_QC104_230710			Intralab Duplicate	EM2312858-AE	**290**	**4.78**	**60.1**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	6.91	2.9	0.05	14.4	4.78	1.94	<0.04	<0.04	<0.04	5.53	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**350**	392
	0939_QC204_230710			Interlab Duplicate	RN1400590	**280**	**3.9**	**59**	<0.01	0.025	<0.01	<0.01	<0.01	<0.02	<0.02	5.5	2.6	0.024	13	4.1	1.7	<0.01	<0.01	<0.01	5.3	1.7	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**339**	377
MW2209	0939_MW2209_230711	11/07/2023	Q2	Primary	EM2312858-AE	**0.64**	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.7**	0.7
MW2210	0939_MW2210_230711	11/07/2023	Q2	Primary	EM2312858-AE	**71.1**	**3.77**	**35.5**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.67	2.71	0.03	12.4	5.13	1.95	<0.02	<0.02	<0.02	7.51	2.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	**107**	148
MW2216	0939_MW2216_230711	11/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2218	0939_MW2218_230711	11/07/2023	Q2	Primary	EM2312858-AE	**1.49**	0.03	**0.43**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.06	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.92**	2.16
MW2270	0939_MW2270_230710	10/07/2023	Q3	Primary	EM2312858-AE	**0.62**	0.04	**0.68**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.3**	1.72
MW2272	0939_MW2272_230712	12/07/2023	Q3	Primary	EM2312858-AE	**106**	**13.6**	**134**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	27.6	5.82	<0.04	45.6	9.55	7.93	<0.04	<0.04	<0.04	29.6	4.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	<0.04	**240**	384
	0939_QC111_230712			Intralab Duplicate	EM2312858-AE	**91**	**13.8**	**123**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	26.7	8.97	0.05	43	11.2	7.56	<0.02	<0.02	<0.02	24.3	3.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.06	<0.02	**214**	354
	0939_QC211_230712			Interlab Duplicate	RN1400590	**85**	**12**	**170**	<0.01	0.013	<0.01	<0.01	<0.01	<0.02	<0.02	24	10	0.024	49	12	7	<0.01	<0.01	<0.01	29	7.8	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**255**	406
MW2275	0939_MW2275_230710	10/07/2023	Q3	Primary	EM2312858-AE	**0.2**	0.11	**1.21**	<0.05	0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.18	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.41**	1.84
MW2281	0939_MW2281_230710	10/07/2023	Q3	Primary	EM2312858-AE	**3.74**	0.11	**2.01**	<0.05	0.28	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.06	<0.02	0.29	0.17	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.75**	7.09
MW2284	0939_MW2284_230712	12/07/2023	Q4	Primary	EM2312858-AE	**14.1**	**1.62**	**15.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.85	1.01	<0.02	5.18	1.02	0.72	<0.02	<0.02	<0.02	2.48	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**29.4**	44.9
	0939_QC110_230712			Intralab Duplicate	EM2312858-AE	**13.2**	**1.42**	**14.4**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.51	0.82	<0.02	4.62	1.18	0.73	<0.02	<0.02	<0.02	2.37	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**27.6**	41.6
	0939_QC210_230712			Interlab Duplicate	RN1400590	**9.6**	**1.3**	**15**	<0.01	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	1.9	0.94	<0.01	3.9	1.3	0.67	<0.01	<0.01	<0.01	2.1	0.74	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**24.6**	37.5
MW2285	0939_MW2285_230710	10/07/2023	Q4	Primary	EM2312858-AE	**0.14**	<0.01	0.05	<0.05	0.17	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.19**	0.36
MW2286	0939_MW2286_230710	10/07/2023	Q4	Primary	EM2312858-AE	**0.33**	0.01	**0.28**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.61**	0.67
MW2325	0669_MW2325_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2358	0939_MW2358_230710	10/07/2023	Q1	Primary	EM2312858-AE	**124**	**6.33**	**153**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	24.4	4.13	<0.04	39.7	7.58	4.98	<0.04	<0.04	<0.04	21.4	2.8	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**277**	388
MW2394	0939_MW2394_220710	10/07/2023	Q1	Primary	EM2312858-AE	**0.07**	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.09**	0.09
MW2411	0939_MW2411_231017	17/10/2023	Q1	Primary	EM2319686	**14.7**	**0.04**	**0.55**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.07	<0.02	0.26	0.1	<0.02	0.04	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	**15.2**	16
MW2490	0939_MW2490_230711	11/07/2023	Q1	Primary	EM2312858-AE	**182**	**10.4**	**209**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	38.6	7.93	<0.04	83.9	6.9	5.84	0.05	<0.04	<0.04	39	3.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.1	<0.04	**391**	587
MW2499	0939_MW2499_230707	7/07/2023	Q1	Primary	EM2312858-AE	**1090**	**9.78**	**86.2**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	9.21	3.52	0.23	25	23.3	2.74	0.24	<0.04	0.05	10.8	2.4	<0.09	<0.09	<0.09	<0.09	<0.04	0.78	<0.04	**1180**	1260
MW2501	0939_MW2501_230711	11/07/2023	Q1	Primary	EM2312858-AE	**0.16**	0.02	**0.07**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.23**	0.31
MW2528	0939_MW2528_230711	11/07/2023	Q1	Primary	EM2312858-AE	**29.9**	**1.52**	**8.45**	<0.05	0.13	0.12	<0.05	<0.02	<0.02	<0.05	1.46	4.54	0.19	12.3	0.47	0.83	0.18	<0.02	0.08	2.83	12.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.15	<0.02	**38.4**	76
	0939_QC105_230711			Intralab Duplicate	EM2312858-AE	**26**	**1.45**	**7.86**	<0.05	0.13	0.11	<0.05	<0.02	<0.02	<0.05	1.33	7.44	0.18	12.3	0.49	0.83	0.18	<0.02	0.08	2.99	8	<0.05	<0.05	<0.05	<0.05	<0.02	0.14	<0.02	**33.9**	69.5
	0939_QC205_230711			Interlab Duplicate	RN1400590	**24**	**1.3**	**8.1**	<0.01	0.12	0.098	<0.01	<0.01	<0.02	<0.02	1.4	6.3	0.18	9.9	0.51	0.75	<0.01	<0.01	0.085	2.4	12	<0.02	<0.05	<0.02	<0.05	<0.01	0.094	<0.01	**32.1**	67.2
MW4001	0939_MW4001_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.98**	0.04	**0.27**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.03	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.25**	1.38
MW4003	0939_MW4003_230712	12/07/2023	Q1	Primary	EM2312858-AE	**9.4**	0.22	**3.75**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	0.09	<0.02	0.44	0.28	0.09	<0.02	<0.02	<0.02	0.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**13.2**	15
	0939_QC109_230712			Intralab Duplicate	EM2312858-AE	**6.63**	0.21	**3.6**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.41	0.09	<0.02	0.42	0.26	0.09	<0.02	<0.02	<0.02	0.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**10.2**	12
	0939_QC209_230712			Interlab Duplicate	RN1400590	**7.7**	0.17	**3.8**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.35	0.081	<0.01	0.42	0.21	0.073	<0.01	<0.01	<0.01	0.27	0.08	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**11.5**	13
MW4009	0939_MW4009_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4013	0939_MW4013_230712	12/07/2023	Q1	Primary	EM2312858-AE	**1.77**	0.2	**4.56**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.21	0.53	<0.02	1.56	0.12	0.15	<0.02	<0.02	<0.02	1.27	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**6.33**	11.6
MW4015	0939_MW4015_230713	13/07/2023	Q1	Primary	EM2312858-AE	**5.89**	0.12	**4.02**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.4	0.04	<0.02	0.37	0.16	0.04	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**9.91**	11.3
MW4020	0939_MW4020_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_230711	11/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_230711	11/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Analytical Results

						Per- and Poly-fluoroalkyl Substances																															
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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						0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.07**	**0.56**	**0.07**																										**0.07**	
Location Code	**Field ID**	**Sampled Date**	**Aquifer**	**Sample Type**	**Lab Report Number**																														
MW4023	0939_MW4023_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.6**	0.02	**0.64**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.24**	1.48
MW4024	0939_MW4024_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.35**	0.02	**0.45**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.07	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.8**	0.96
MW4027	0939_MW4027_231027	27/10/2023	Q1	Primary	EM2319686	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4035	0939_MW4035_230710	10/07/2023	Q2	Primary	EM2312858-AE	**2.32**	0.04	**0.81**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.06	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**3.13**	3.49
MW4037	0939_MW4037_230712	12/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
	0939_QC108_230712			Intralab Duplicate	EM2312858-AE	0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
	0939_QC208_230712			Interlab Duplicate	RN1400590	<0.02	<0.01	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.02	0.022
MW4041	0939_MW4041_230712	12/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4045	0939_MW4045_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.16**	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.21**	0.21
MW4048	0939_MW4048_230710	10/07/2023	Q2	Primary	EM2312858-AE	**0.52**	0.03	**0.28**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.8**	0.93
MW4052	0939_MW4052_230712	12/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4053	0939_MW4053_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.72**	0.02	**0.34**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.06**	1.16
MW4055	0939_MW4055_230712	12/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4057	0939_MW4057_230710	10/07/2023	Q1	Primary	EM2312858-AE	**0.22**	0.06	**0.21**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.03	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.43**	0.64
MW4058	0939_MW4058_230710	13/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC107_230711			Intralab Duplicate	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC207_230711			Interlab Duplicate	RN1400590	**0.12**	<0.01	0.042	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.162**	0.16
MW4061	0939_MW4061_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_230712	12/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_230711	11/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4066	0939_MW4066_230710	10/07/2023	Q2	Primary	EM2312858-AE	0.05	0.01	**0.13**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.18**	0.23
MW4068	0939_MW4068_230710	10/07/2023	Q3	Primary	EM2312858-AE	**4.69**	0.1	**1.93**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.04	<0.02	0.22	0.14	0.04	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**6.62**	7.59
MW4069	0939_MW4069_230710	10/07/2023	Q3	Primary	EM2312858-AE	**1.29**	0.06	**0.67**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.04	<0.02	0.1	0.03	0.03	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.96**	2.36
MW4070	0939_MW4070_230710	10/07/2023	Q3	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4071	0939_MW4071_230710	10/07/2023	Q3	Primary	EM2312858-AE	0.02	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_230712	12/07/2023	Q1	Primary	EM2312858-AE	0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW4073	0939_MW4073_230710	10/07/2023	Q3	Primary	EM2312858-AE	**0.07**	0.02	**0.19**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.26**	0.38
MW4074	0939_MW4074_230710	10/07/2023	Q3	Primary	EM2312858-AE	**0.16**	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.16**	0.16
MW4075	0939_MW4075_230710	10/07/2023	Q4	Primary	EM2312858-AE	**0.58**	0.26	**6.24**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.35	0.19	<0.02	1.71	0.08	0.24	<0.02	<0.02	<0.02	0.98	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**6.82**	11.7
MW4076	0939_MW4076_231027	27/10/2023	Q2	Primary	EM2319686	0.02	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
	0939_QC101_231027			Intralab Duplicate	EM2319686	0.02	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
	0939_QC201_231027			Interlab Duplicate	RN1411113	0.025	<0.01	**0.088**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.113**	0.113
MW4077	0939_MW4077_230711	11/07/2023	Q2	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_230710	10/07/2023	Q4	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4079	0939_MW4079_230710	13/07/2023	Q4	Primary	EM2312858-AE	0.02	0.02	**0.09**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.11**	0.19
MW4218	0939_MW4218_230711	11/07/2023	Q1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4219	0939_MW4219_230712	12/07/2023	Q1	Primary	EM2312858-AE	**0.17**	<0.01	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.32**	0.39
MW4220	0939_MW4220_230712	12/07/2023	T1	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_230712	12/07/2023	T1	Primary	EM2312858-AF	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_230712	12/07/2023	T1	Primary	EM2312858-AF	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_230714	14/07/2023	Q2	Primary	EM2312835	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Notes:

Denotes new maximum value for Sum of PFHxS+PFOS or PFOA

Denotes new exceedence of human health screening criteria

LOR: Limit of reporting

µg/L: micrograms per Litre

Table T3: Surface Water Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Redox Potential (Corrected)	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV	(Eh)** (mV)	
SW003	7/07/2023	7.76	454	295	3.96	16.8	-82.1	125.1	Clear, low turbidity, no odour.
SW006	13/07/2023	8.30	323	210	4.21	11.9	-126.2	85.9	Clear, Low Turbidity, No odour.
SW009	13/07/2023	8.08	372	241	6.21	10.3	-41.2	172.5	Clear, Low Turbidity, No odour.
SW010	13/07/2023	8.02	357	232	7.41	11.6	-41.2	171.2	Clear, Low Turbidity, No odour.
SW011	13/07/2023	7.58	485	315	4.31	11.9	-130.1	82	Clear, Low Turbidity, No odour.
SW012	13/07/2023	7.87	389	253	6.12	10.4	52.1	265.7	Clear, Low Turbidity, No odour.
SW017	7/07/2023	7.25	235	153	5.87	12.9	55.5	266.6	Clear, low turbidity, no odour.
SW018	7/07/2023	7.74	232	151	9.10	13.7	-67.5	142.8	Clear, low turbidity, no odour.
SW019	13/07/2023	Dry							
SW021	13/07/2023	Dry							
SW028	7/07/2023	7.51	296	192	6.15	13.2	-82.1	128.7	Clear, low turbidity, no odour.
SW029	7/07/2023	7.55	264	172	8.10	14.4	40.4	250	Clear, low turbidity, no odour.
SW032	13/07/2023	7.82	301	196	2.61	9.4	32.1	246.7	Light Grey, Low Turbidity, No odour.
SW033	13/07/2023	Dry							
SW037	7/07/2023	7.59	308	200	2.71	10.8	-10.1	203.1	Brown, medium turbidity, no odour.
SW050	11/07/2023	7.85	394	256	6.52	13.0	-132.1	78.9	Clear, Low Turbidity, No odour.
SW054	11/07/2023	7.70	322	209	6.41	12.3	11.1	222.8	Clear, Low Turbidity, No odour.
SW058	13/07/2023	8.48	352	229	7.01	11.5	-81.2	131.3	Clear, Low Turbidity, No odour.
SW059	13/07/2023	8.27	122	79	4.76	10.8	-22.7	190.5	Clear, Low Turbidity, No odour.
SW062	13/07/2023	8.29	530	345	4.01	11.3	-101.2	111.5	Clear, Low Turbidity, No odour.
SW078	13/07/2023	7.27	1575	1024	2.37	14.3	-233.8	-24.1	Clear, Low Turbidity, No odour.

Notes:
°C: Degrees Celsius
mg/L: Milligrams per litre (ppm w/v)
mV: Millivolts
µS/cm: Micro Siemens per centimetre
EC: Electrical Conductivity
* Approximate value determined using the following equation: TDS (mg/L) = EC x 0.65
** Redox potential (Eh) conversion based on Ag/AgCl KCl saturated/4M reference electrode

Table T4: Surface Water Analytical Results

								Per- and Poly-fluoroalkyl Substances																													
								Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	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
LOR								0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Freshwater 95%								**220**	**0.13**																												
PFAS NEMP 2020 Recreational Water								*10*	*2*	*2*																										*2*	
Location Code	**Field ID**	**Sampled Date**	**Sample Type**	**Lab Report Number**																																	
SW003	0939_SW003_ 230707	13/07/2023	Primary	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW006	0939_SW006_230713	13/07/2023	Primary	EM2314213	<0.01	0.06	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
	0939_QC113_230713		Intralab Duplicate	EM2314213	<0.01	0.06	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
	0939_QC213_230713		Interlab Duplicate	RN1401651	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.07	0.07
SW009	0939_SW009_230713	13/07/2023	Primary	EM2314213	<0.01	0.08	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.15	0.15
SW010	0939_SW010_230713	13/07/2023	Primary	EM2314213	<0.01	0.07	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.13
SW011	0939_SW011_230713	13/07/2023	Primary	EM2314213	<0.01	**0.14**	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.21	0.21
SW012	0939_SW012_230713	13/07/2023	Primary	EM2314213	<0.01	0.1	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.19	0.19
SW017	0939_SW017_ 230707	7/07/2023	Primary	EM2312858-AE	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
	0939_QC101_230707		Intralab Duplicate	EM2312858-AE	<0.01	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
	0939_QC201_230707		Interlab Duplicate	RN1401651	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05
SW018	0939_SW018_ 230707	7/07/2023	Primary	EM2312858-AE	<0.01	0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
SW028	0939_SW028_230707	7/07/2023	Primary	EM2314213	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW029	0939_SW029_230707	13/07/2023	Primary	EM2314213	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW032	0939_SW032_230713	13/07/2023	Primary	EM2314213	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC112_230713		Intralab Duplicate	EM2314213	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC212_230712		Interlab Duplicate	RN1401651	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05
SW037	0939_SW037_230707	7/07/2023	Primary	EM2312858-AE	<0.01	0.07	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.09
SW050	0939_SW050_230711	11/07/2023	Primary	EM2314213	<0.01	0.06	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
SW054	0939_SW054_230711	11/07/2023	Primary	EM2314213	<0.01	0.04	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
SW058	0939_SW058_230713	13/07/2023	Primary	EM2314213	<0.01	0.08	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.13
SW059	0939_SW059_230713	13/07/2023	Primary	EM2314213	<0.01	0.03	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
SW062	0939_SW062_230713	13/07/2023	Primary	EM2314213	<0.01	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.1	0.1
SW078	0939_SW078_230713	13/07/2023	Primary	EM2314213	0.02	**0.44**	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.79	0.93

Notes:

Denotes new maximum value for Sum of PFHxS+PFOS or PFOA
Denotes first time detection above LOR for Sum of PFHxS+PFOS or PFOA
Denotes new exceedance of ecological screening criteria
LOR: Limit of reporting
µg/L: micrograms per Litre

Appendix C

Data Validation Reports

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Analytical data validation

Introduction

Analytical data validation is the process of assessing if data are in compliance with method requirements and project specifications. The primary objectives of this process are to ensure that data of known quality are reported, and to identify if the data can be used to fulfil the overall project objectives.

The data validation guidelines that are adopted provide a consistent approach for the evaluation of analytical data. These guidelines are based upon the following data validation guidance documents:

- US EPA Superfund Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, EPA 540-R-20-005, November 2020
- US EPA Superfund Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, EPA 542-R-20-006, November 2020
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM), Schedule B3
- Australian Standard AS 4482.1-2005, Guide to the investigation and sampling of sites with potentially contaminated soil – Part1: Non-volatile and semi-volatile compounds, November 2005.

A range of quality control tests are conducted and reported by the analytical laboratories to enable an assessment of the accuracy, precision and reliability of the project analytical data generated. Accuracy and precision can be defined as follows:

accuracy - the degree of agreement of a measurement (or an average of measurements) with the accepted reference or true value. Analytical accuracy is analyte and matrix dependent.

precision - the degree to which data generated from replicate or repetitive measurements differ from one another.

Specific elements of data validation that will be checked and assessed for this project include:

- preservation and storage of samples upon collection, processing and during transport to the laboratory
- use of National Association of Testing Authorities (NATA) accredited laboratory methods
- sample holding times
- required limits of reporting (LOR)
- frequency of conducting quality control measurements
- field and trip blanks
- laboratory blanks
- field duplicates
- laboratory duplicates
- matrix spikes
- laboratory control sample spikes
- surrogates
- the occurrence of apparently unusual or anomalous results, e.g. laboratory results that appear to be inconsistent with field observations or measurements.

The specific methods used to check compliance and to assess accuracy, precision and useability of analytical data for this project are as follows:

Sample preservation, storage, and holding time requirements

Sample preservation, storage temperature and holding time requirements are assessed in relation to guidelines recommended by the US EPA and/or APHA (American Public Health Association). If non-compliance to these requirements is observed for a given sample or samples, professional judgement is used to evaluate the extent to which sample integrity and hence sample results may have been compromised.

NATA accreditation

Checks are made to ensure that all laboratory methods relied upon for interpretive use are NATA accredited.

Reporting limit requirements

Checks are made to ensure that the laboratory has complied with project reporting requirements and specifically that laboratory limits of reporting are below the adopted assessment criteria.

Blanks

Blank samples are designed to monitor the introduction of artefacts or interferences into the sampling and analysis programs, which may lead to the reporting of false positive data.

Field blanks (Rinsate Blanks) are samples of water from a known or controlled source (that ideally do not contain project analytes) prepared by sampling personnel in the same manner as regular samples. The associated sampling equipment is rinsed with this water at the completion of decontamination. The rinsate is collected directly into the same types of containers used for regular samples. The collection of field blanks enables the measurement of incidental or accidental contamination during the whole process (sampling, transport, sample preparation and analysis). Rinsate blanks are generally not collected where separate, dedicated sampling equipment is used at each sampling location.

Trip blanks are employed where volatiles organic compounds (VOCs) are included in the analyte list. They comprise VOC-free samples of the appropriate media, stored in containers similar to those used for sample storage. The trip blanks are stored in the same locations (e.g. ice chests) and accompany the samples from the field, ultimately to the laboratory. They will not, however, opened prior to receipt by the laboratory. Trip blanks are analysed as per the other samples and provide an indication of the occurrence of contamination during storage and shipment of samples.

Laboratory blanks consist of reagents specific to each individual analytical method prepared and analysed by the laboratory in the same manner as regular samples. The preparation and analysis of laboratory blanks enables the measurement of incidental or accidental contamination within the laboratory.

Field duplicates

Field duplicate samples are prepared in the field by splitting a field sample, then submitting them to the same laboratory as two independently labelled samples. Field duplicates are used to assess the precision of the whole process (sampling, sample preparation and analysis). However, discretion will be used when assessing the results of field duplicate data. In some cases (particularly with heterogeneous/fill material) influences other than sampling/laboratory precision can influence the results. In some cases the results of field duplicates can be used to assess the degree to which the particulate nature of the contaminant (or parameter) is effecting the overall data set.

The *relative percent difference* (RPD) of each field duplicate set is calculated to assess overall precision, where:

$$RPD = \frac{(C1 - C2)}{(C1 + C2)/2} \times 100\%$$

where C1 = field sample measurement
C2 = field sample duplicate

Significant variation in field duplicate results is often observed (particularly for solid matrix samples) due to sample heterogeneity, and where reported results are less than ten times the laboratory limit of reporting. Professional judgement will be exercised when assessing field duplicate data.

A field duplicate RPD value of <30% is generally considered acceptable, while RPDs <50% may be acceptable where concentrations are low (< 20 times the LOR). Where results are close to the LOR, elevated RPDs may be high, even where absolute differences are low and effectively negligible.

Those RPDs that exceed these values will be considered on a case-by-case basis using professional judgement. It is noted that, in accordance with US EPA CLP guidance[1], where a duplicate sample RPD does not meet the criteria, consideration of the significance of the exceedance should be applied to all samples and analytes of the same matrix and analytical technique.

Inter-laboratory duplicate samples (triplicate or split samples)

Split samples are samples prepared by mixing and splitting one large sample into two portions. One of these samples is submitted to the primary analytical laboratory, while the remaining sample is submitted to a secondary laboratory for the identical suite of analyses. Split samples are prepared and analysed in order to check the accuracy of data generated by the primary laboratory. Significant variation in split sample results is often observed due to sample heterogeneity and/or differences in analytical techniques employed by the laboratories involved. RPDs are assessed as per field duplicates.

Laboratory duplicates

Laboratory duplicates are samples prepared within the laboratory by dividing a field sample into two portions and analysing separately. The analysis of laboratory replicate samples provides an indication of analytical precision and is also influenced by sample heterogeneity. The laboratory duplicate RPD is used to assess laboratory precision.

A laboratory duplicate RPD of <30% is generally considered acceptable.

Matrix spike and laboratory control sample spikes/spike duplicates

Matrix spikes (MS) are samples prepared within the laboratory by spiking the field sample with a known concentrations of specific analytes. Laboratory control sample spike/spike duplicates (LCS) are similarly prepared, by spiking a clean laboratory or contaminant free sample (blank). The results of the MS are used to assess the effects of the sample matrix on the accuracy of the analyses. The laboratory control sample spike (LCS) and spike duplicate (LCSD) are similarly analysed separately to assess the precision and accuracy of the analysis independent of the matrix analysed. Precision will be assessed by calculating the relative percent difference of the two results, whilst accuracy will be assessed by calculation of *percent recovery*, where:

percent recovery (PR) = X/T x 100%,
where X = the observed value of measurement
T = "true" value

Ideally, all calculated recoveries should be between 70-130%. The evaluation of these results is not necessarily straightforward, since the sample itself may produce effects due to such factors as the presence of sample interferences and high concentrations of analytes. Similarly the evaluation of blank spikes and spike duplicates is not necessarily straight forward, since the recoveries are not dependant on the matrices of the samples. Since these effects are outside the control of the laboratory, evaluation is often subjective and requires a considerable input of professional judgement. In addition, MS and LCS/LCSD data is evaluated in conjunction with other QC criteria, rather than an isolated assessment.

Surrogates

Surrogates (or system monitoring compounds) are used to assess the performance of individual organic analyses that involve chromatographic techniques. These compounds are spiked into all sample aliquots at the commencement of sample preparation. The spiked sample aliquots then undergo normal extraction and analysis procedures. Percent recoveries are calculated for each surrogate, providing an indication of analytical accuracy. Surrogate spiking is normally viable for gas chromatography/mass spectrometry (GC/MS) techniques only. Surrogate compounds are generally chosen to be representative of the analytical

[1] US EPA Contract Laboratory Program, data review guidelines, https://www.epa.gov/sites/default/files/2021-03/documents/nfg_for_inorganic_superfund_methods_data_review_november_2020.pdf

compounds under investigation, while not being present naturally themselves. This can mean that they are deuterated, alkylated or halogenated analogues, or structural isomers of the compounds under investigation.

Surrogate percent recoveries between of 70-130% are generally considered acceptable. However, as with MS/MSDs, the evaluation of these results is not necessarily straightforward, since the sample itself may produce effects due to such factors as the presence of interferences and high concentrations of analytes. Since these effects are outside the control of the laboratory, evaluation is often subjective and requires a considerable input of professional judgement.

Unusual or anomalous results

Checks are made on the data set to identify any apparently unusual or anomalous results that appear inconsistent with field data or observations, are inconsistent with historical or other spatial data. Where any anomalies are identified, they are noted and professional judgement is used to assess their significance with regard to interpretive use of the data.

Recommended frequency of quality control measurements and indicative quality objectives

In accordance with guidance in the ASC NEPM and AS 4482.1-2005 the recommended quality assurance/quality control measures to be undertaken are summarised in the following table.

Measurement	Soil	Water	Frequency	RPD (%)	Recovery (%)
Type of quality control samples to be prepared or taken on-site					
Rinsate blanks		✓	1 per day per field piece of equipment	-	-
Trip blanks (groundwater samples requiring VOC analysis only)		✓	1 per esky or 1 per batch	-	-
Field duplicates (primary laboratory – intra-laboratory field duplicate)	✓	✓	1 in 20 samples collected or 1 per batch	30 - 50	-
Inter-laboratory field duplicate)	✓	✓	1 in 20 samples collected or 1 per batch	30 - 50	
Quality control samples to be prepared by laboratory					
Laboratory blanks	✓	✓	1 per batch	-	-
Laboratory duplicates	✓		1 in 10 samples collected or 1 per batch (whichever is smaller)	30	-
Matrix spike recoveries	✓		1 in 20 samples collected or 1 per batch	-	70 - 130
Spike recoveries	✓		1 in 20 samples collected or 1 per batch	-	70 - 130
Surrogates	✓	✓	Each analysis done by GC-MS (all organics except C10+ TPH)	-	70 - 130

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DATA VALIDATION REPORT; GROUNDWATER

Project Manager: [redacted]
Project number: 60612561
Site: RAAF Edinburgh
Matrix: Water
Laboratory: ALS; NMI
Lab reference: EM2312835, EM2312858, EM2314213, RN1401651, EM2319686, RN1411113

Validation by: [redacted]
Date: 07/08/2023

Data Verified by:
Date: 08/08/2023

Key Findings:

The groundwater analytical data can be used as a basis for interpretation, subject to the limitations outlined below:

- Elevated RPDs should be taken into consideration when using data for PFPeA, PFBA, PFNA quantitatively.
- Elevated RPDs should be taken into consideration when interpreting data for PFOS and PFHxS+PFOS where close to guidelines.
- The potential exists for concentrations of PFOS, PFBA, PFPeA and 10:2 FTS to be biased low, this potential for over reporting should be taken into consideration when using results quantitatively and where close to guidelines

Component		Outliers			Material impact on interpretation
		No	Yes	Comment	
Frequency of field quality assurance/quality control (QAQC)			✓	1	No
Number of tests requested/reported		✓			
Sample handling/preservation/holding times		✓			
Frequency of laboratory QA/QC			✓	2	No
Limits of reporting (LOR)		✓			
Blank analysis	Field blank	✓			
	Rinsate blank	✓			
	Trip blank	✓			
	Method blank	✓			
Field intra-laboratory relative percent differences (RPDs)			✓	3	No
Field inter-laboratory RPDs			✓	4	No
Laboratory duplicate RPDs		✓			
Matrix spike (MS) % recoveries			✓	5	No
Laboratory control spike (LCS) % recoveries		✓			
Surrogate % recoveries		✓			
Other observations		✓	✓	6	No

Comments	
1. Frequency of field QA/QC	Field intra- and inter-laboratory duplicate samples were not collected at a frequency of one in 10 primary samples for groundwater. The precision of the data can be assessed as acceptable based on the frequency of the field intra- and inter-laboratory duplicate samples collected for the entire event for the water matrix (groundwater and surface water samples).
2. Frequency of Laboratory QA/QC	Laboratory duplicate samples were not reported for PFAS in laboratory batch EM2312835 and EM2314213. The precision of the data can be assessed as acceptable based on intra- and inter-laboratory duplicate RPDs which were reported at the required frequencies and generally within control limits. Matrix spikes were not reported at the required frequencies for PFAS method groups in laboratory batch EM2312835 and EM2314213. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits).
3. Field intra-laboratory duplicate RPDs	Field intra-laboratory duplicate RPDs were reported within control limits, with the exception of the following in lab batch EM2312858 (the sample with the higher concentration is in bold): • 0939_MW2203_ 230710 and **0939_QC104_230710** for PFPeA (52%) • 0939_MW2528_230711 and **0939_QC105_230711** for PFPeA (48%) • **0939_MW2528_230711** and 0939_QC105_230711 for PFBA (47%) • **0939_MW4003_230712** and 0939_QC109_230712 for PFOS (35%) • 0939_MW2272_230712 and **0939_QC111_230712** for PFPeA (43%) As there are no adopted guideline values for PFPeA and PFBA the elevated RPD will not affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. This apparent lack of precision should be taken into consideration when interpreting concentrations for PFOS close to guidelines.

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Comments	
4. Field inter-laboratory duplicate RPDs	Field inter-laboratory RPDs were reported within control limits, with the exception of the following in lab batch RN1400590 and RN141113 (the sample with the higher concentration is in bold). • 0939_MW2203_ 230710 and **0939_QC204_230710** for PFPeA (42%) and PFBA (34%) • 0939_MW2528_230711 and **0939_QC205_230711** for PFPeA (32%) • **0939_MW2114_ 230711** and 0939_QC206_230711 for PFNA (53%) , PFHxS+PFOS (31%) and sum of PFAS (6%) • 0939_MW2114_ 230711 and **0939_QC206_230711** for PFBA (74%) • 0939_MW4060_230711 and 0939_QC207_230711 for PFHxS+PFOS (176%) and sum of PFAS (176%) • **0939_MW2284_230712** and 0939_QC210_230712 for PFOS (38%) and PFPeS (40%) • 0939_MW2272_230712 and **0939_QC211_230712** for PFPeA (53%) and PFBA (58%) • 0939_MW4076_231027 and **0939_QC201_230707** for PFHxS+PFOS (116%) • 0939_MW4076_231027 and **0939_QC201_230707** for sum of PFAS (116%) As there are no adopted guideline values for PFPeA, PFBA, PFPeS, PFNA and sum of PFAS the elevated RPD will not affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. This apparent lack of precision should be taken into consideration when interpreting concentrations for PFOS and PFHxS+PFOS close to guidelines.

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Comments

5. MS % recoveries

Matrix spike recoveries (where reported) were within control limits. Matrix spike recoveries were not determined for select samples of PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFDS, PFPeA, PFHxA, PFOA and 10:2 FTS as background levels were greater than or equal to 4x spike levels.

These non-determinations do not reflect method bias and do not affect data interpretation. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits).

Matrix spike recoveries (where reported) were within control limits, with the following exceptions in lab batch EM2312858 :

Analyte	Recovery (%)	Range (%)	Comment
PFOS	42.3	65-140	Recovery less than lower data quality objective
PFBA	62.3	44-122	Recovery less than lower data quality objective
	67.2		Recovery less than lower data quality objective
	55.6		Recovery less than lower data quality objective
	53.9		Recovery less than lower data quality objective
	48.5*		Recovery less than lower data quality objective
PFPeA	69.1	72-129	Recovery less than lower data quality objective
10:2 FTS	58	70-130	Recovery less than lower data quality objective

*Result from an anonymous sample run with lab batch EM2319686

The potential exists for concentrations of PFOS to be bias low by up to 67.3%.
The potential exists for concentrations of PFBA to be bias low by up to 46.1%.
The potential exists for concentrations of PFPeA to be bias low by up to 30.9%.
The potential exists for concentrations of 10:2 FTS to be bias low by up to 42%.

As there is no adopted guideline value for PFBA, PFPeA and 10:2 FTS the potential for under reporting is not considered to affect interpretation of the results against guidelines. However, this potential for under reporting should be taken into consideration when using the data quantitatively.

This apparent lack of accuracy should be taken into consideration when interpreting concentrations for PFOS close to guidelines.

ALS noted poor matrix spike recovery for method group EP231X for samples MW2157, MW2216, MW4003, MW4024, MW4045 due to sample matrix interference.

6. Other comments

General Comments

ALS laboratory noted the following

- EP231X: Samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.

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Lab Report Number	EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE
Field ID	0939_QC401_230707	0939_QC402_230710	0939_QC403_230710	0939_QC404_230711	0939_QC405_230712	0939_QC406_230713
Sampled Date	10/07/2023	10/07/2023	10/07/2023	11/07/2023	12/07/2023	13/07/2023
Sample Type	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank

Reporting Group	Analyte	Units	LOR						
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	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
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<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
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	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
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	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
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<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
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Lab Report Number			EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE	EM2312858-AE	
Field ID			0939_QC301_230707	0939_QC302_230710	0939_QC303_230710	0939_QC304_230711	0939_QC305_230712	0939_QC306_230713	
Sampled Date			10/07/2023	10/07/2023	10/07/2023	11/07/2023	12/07/2023	13/07/2023	
Sample Type			Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	
Reporting Group	**Analyte**	**Units**	**LOR**						
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	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
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<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
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	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
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	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
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<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
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

			Lab Report Number	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590	
			Field ID	0939_SW017_ 230707	0939_QC101_230707	RPD	0939_SW017_ 230707	0939_QC201_230707	RPD	0939_MW2177_ 230710	0939_QC102_230710	RPD	0939_MW2177_ 230710	0939_QC202_230710	RPD
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	7/07/2023	7/07/2023		7/07/2023	7/07/2023		10/07/2023	10/07/2023		10/07/2023	10/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	0.04	0.04	0	0.04	0.028	35
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.02	0.01	67	0.02	<0.02	0	1.47	1.58	7	1.47	1.5	2
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	0.82	0.81	1	0.82	0.79	4
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.05	0.05	0	0.05	0.037	30
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	0.02	0.02	0	0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.14	0.12	15	0.14	0.11	24
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.07	0.07	0	0.07	0.046	41
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.03	0.03	0	0.03	0.024	22
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.02	0.01	67	0.02	<0.03	0	2.29	2.39	4	2.29	2.29	0
	Sum of PFAS	µg/L	0.01	0.02	0.01	67	0.02	<0.05	0	2.64	2.72	3	2.64	2.54	4

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

***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	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590	
	Field ID	0939_MW2162_ 230710	0939_QC103_230710	RPD	0939_MW2162_ 230710	0939_QC203_230710	RPD	0939_MW2203_ 230710	0939_QC104_230710	RPD	0939_MW2203_ 230710	0939_QC204_230710	RPD
	Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
	Sampled Date	10/07/2023	10/07/2023		10/07/2023	10/07/2023		10/07/2023	10/07/2023		10/07/2023	10/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**										
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	4.48	4.78	6	4.48	3.9	14
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.13	0.14	7	0.13	0.11	17	308	290	6	308	280	10
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.29	0.29	0	0.29	0.31	7	61.2	60.1	2	61.2	59	4
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	0.025	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.04	<0.04	0	<0.04	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.03	0.03	0	0.03	0.023	26	6.9	6.91	0	6.9	5.5	23
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	**1.7**	**2.9**	**52**	**1.7**	**2.6**	**42**
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	0.05	22	<0.04	0.024	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.04	0	0.04	0.037	8	14.2	14.4	1	14.2	13	9
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	4.5	4.78	6	4.5	4.1	9
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	1.95	1.94	1	1.95	1.7	14
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.03	0.04	29	0.03	0.022	31	6.16	5.53	11	6.16	5.3	15
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	1.2	1.2	0	**1.2**	**1.7**	**34**
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.09	<0.09	0	<0.09	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.09	<0.09	0	<0.09	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	0.04	<0.04	0	0.04	<0.01	120
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.42	0.43	2	0.42	0.42	0	369	350	5	369	339	8
	Sum of PFAS	µg/L	0.01	0.52	0.54	4	0.52	0.502	4	410	392	4	410	377	8

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

***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	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590	
			Field ID	0939_MW2528_230711	0939_QC105_230711	**RPD**	0939_MW2528_230711	0939_QC205_230711	**RPD**	0939_MW2114_ 230711	0939_QC106_230711	**RPD**	0939_MW2114_ 230711	0939_QC206_230711	**RPD**
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	11/07/2023	11/07/2023		11/07/2023	11/07/2023		11/07/2023	11/07/2023		11/07/2023	11/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	1.52	1.45	5	1.52	1.3	16	56.1	57.6	3	56.1	52	8
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	29.9	26	14	29.9	24	22	525	546	4	525	430	20
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	8.45	7.86	7	8.45	8.1	4	309	315	2	309	340	10
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.13	0.13	0	0.13	0.12	8	2.24	2.48	10	2.24	2.1	6
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.12	0.11	9	0.12	0.098	20	0.18	0.22	20	0.18	0.19	5
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.04	<0.04	0	<0.04	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	1.46	1.33	9	1.46	1.4	4	74.1	74.7	1	74.1	66	12
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	**4.54**	**7.44**	**48**	**4.54**	**6.3**	**32**	23.6	24	2	23.6	23	3
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.19	0.18	5	0.19	0.18	5	0.24	0.23	4	**0.24**	**0.14**	**53**
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	12.3	12.3	0	12.3	9.9	22	113	118	4	113	120	6
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.47	0.49	4	0.47	0.51	8	38.8	40	3	38.8	31	22
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.83	0.83	0	0.83	0.75	10	28.8	31	7	28.8	25	14
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	0.18	0.18	0	0.18	<0.01	179	0.13	0.15	14	0.13	<0.01	171
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	0.08	0.08	0	0.08	0.085	6	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	2.83	2.99	5	2.83	2.4	16	74.9	76.6	2	74.9	80	7
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	**12.9**	**8**	**47**	12.9	12	7	10.6	13	20	**10.6**	**23**	**74**
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.09	<0.09	0	<0.09	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.09	<0.09	0	<0.09	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.09	<0.09	0	<0.09	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	0.15	0.14	7	0.15	0.094	46	<0.04	<0.04	0	<0.04	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.04	<0.04	0	<0.04	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	38.4	33.9	12	38.4	32.1	18	834	861	3	**834**	**613**	**31**
	Sum of PFAS	µg/L	0.01	76	69.5	9	76	67.2	12	1260	1300	3	**1260**	**1192**	**6**

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

***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	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590	
			Field ID	0939_MW4060_230711	0939_QC107_230711	**RPD**	0939_MW4060_230711	0939_QC207_230711	**RPD**	0939_MW4037_230712	0939_QC108_230712	**RPD**	0939_MW4037_230712	0939_QC208_230712	**RPD**
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	11/07/2023	11/07/2023		11/07/2023	11/07/2023		12/07/2023	12/07/2023		12/07/2023	12/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.01	<0.01	0	<0.01	0.12	169	<0.01	0.01	0	<0.01	<0.02	0
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	0.042	123	0.02	0.02	0	0.02	0.022	10
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	0	**<0.01**	**0.162**	**176**	0.02	0.03	40	0.02	<0.02	0
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	0	**<0.01**	**0.162**	**176**	0.02	0.03	40	0.02	0.022	10

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

***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	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590	
			Field ID	0939_MW4003_230712	0939_QC109_230712	RPD	0939_MW4003_230712	0939_QC209_230712	RPD	0939_MW2284_230712	0939_QC110_230712	RPD	0939_MW2284_230712	0939_QC210_230712	RPD
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	12/07/2023	12/07/2023		12/07/2023	12/07/2023		12/07/2023	12/07/2023		12/07/2023	12/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.22	0.21	5	0.22	0.17	26	1.62	1.42	13	1.62	1.3	22
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	**9.4**	**6.63**	**35**	9.4	7.7	20	14.1	13.2	7	**14.1**	**9.6**	**38**
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	3.75	3.6	4	3.75	3.8	1	15.3	14.4	6	15.3	15	2
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	0.024	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.43	0.41	5	0.43	0.35	21	2.85	2.51	13	**2.85**	**1.9**	**40**
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.09	0.09	0	0.09	0.081	11	1.01	0.82	21	1.01	0.94	7
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.44	0.42	5	0.44	0.42	5	5.18	4.62	11	5.18	3.9	28
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.28	0.26	7	0.28	0.21	29	1.02	1.18	15	1.02	1.3	24
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.09	0.09	0	0.09	0.073	21	0.72	0.73	1	0.72	0.67	7
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.3	0.3	0	0.3	0.27	11	2.48	2.37	5	2.48	2.1	17
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	0.08	0	0.6	0.3	67	0.6	0.74	21
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	13.2	10.2	26	13.2	11.5	14	29.4	27.6	6	29.4	24.6	
	Sum of PFAS	µg/L	0.01	15	12	22	15	13.15	13	44.9	41.6	8	44.9	37.5	

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

***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	EM2312858-AE	EM2312858-AE		EM2312858-AE	RN1400590		EM2314213	EM2314213		EM2314213	RN1401651	
	Field ID	0939_MW2272_230712	0939_QC111_230712	RPD	0939_MW2272_230712	0939_QC211_230712	RPD	0939_SW032_230713	0939_QC112_230713	RPD	0939_SW032_230713	0939_QC212_230712	RPD
	Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate	
	Sampled Date	12/07/2023	12/07/2023		12/07/2023	12/07/2023		13/07/2023	13/07/2023		13/07/2023	13/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**										
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	13.6	13.8	1	13.6	12	13	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	106	91	15	106	85	22	<0.01	<0.01	0	<0.01	<0.02	0
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	134	123	9	134	170	24	<0.01	<0.01	0	<0.01	<0.01	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	0.013	0	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.04	<0.02	0	<0.04	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.05	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	27.6	26.7	3	27.6	24	14	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	**5.82**	**8.97**	**43**	**5.82**	**10**	**53**	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	0.05	22	<0.04	0.024	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	45.6	43	6	45.6	49	7	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	9.55	11.2	16	9.55	12	23	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	7.93	7.56	5	7.93	7	12	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	29.6	24.3	20	29.6	29	2	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	4.3	3.9	10	**4.3**	**7.8**	**58**	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.05	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.09	<0.05	0	<0.09	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.09	<0.05	0	<0.09	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.09	<0.05	0	<0.09	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.06	40	0.04	<0.01	120	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.04	<0.02	0	<0.04	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	240	214	18	240	255	6	<0.01	<0.01	0	<0.01	<0.05	0
	Sum of PFAS	µg/L	0.01	384	354	8	384	406	6	<0.01	<0.01	0	<0.01	<0.05	0

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

***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.

Relative Percentage Difference Table

			Lab Report Number	EM2314213	EM2314213		EM2314213	RN1401651	
			Field ID	0939_SW006_230713	0939_QC113_230713	**RPD**	0939_SW006_230713	0939_QC213_230713	**RPD**
			Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate	
			Sampled Date	13/07/2023	13/07/2023		13/07/2023	13/07/2023	
Reporting Group	**Analyte**	**Units**	**LOR**						
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.06	0.06	0	0.06	0.068	13
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05		0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.06	0.06	0	0.06	0.068	13
	Sum of PFAS	µg/L	0.01	0.06	0.06	0	0.06	0.068	13

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

***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.

QAQC Blank Sample Analysis

Lab Report Number	EM2319686
Field ID	0939_QC301_231027
Sampled Date	27/10/2023 14:30
Sample Type	Rinsate

Reporting Group	Analyte	Units	LOR	
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02
	Sum of PFHxS and PFOS	µg/L	0.01	<0.01
	Sum of PFAS	µg/L	0.01	<0.01
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01

Relative Percentage Difference Table

Lab Report Number	EM2319686	EM2319686		EM2319686	RN1411113	
Field ID	0939_MW4076_231027	0939_QC101_231027	**RPD**	0939_MW4076_231027	0939_QC201_230707	**RPD**
Sample Type	Primary	Intralab Duplicate		Primary	Interlab Duplicate	
Sample Date	27/10/2023	27/10/2023		27/10/2023	27/10/2023	

Reporting Group	Analyte	Units	LOR						
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.02	0.02	0	0.02	0.025	22
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	<0.01	0	0.01	0.088	159
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	0.018	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.03	0.02	40	**0.03**	**0.113**	**116**
	Sum of PFAS	µg/L	0.01	0.03	0.02	40	**0.03**	**0.113**	**116**

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

AECOM4/230726
A0
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V2/8

AECOM PROJECT - CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT:	AECOM Australia Pty Ltd	LABORATORY:	NMI	All results to be provided in MRED format.	FOR LABORATORY USE ONLY
ADDRESS:	[redacted]	ADDRESS:	[redacted]	email address: adelaide@uraecom.com	
PHONE NO:		PHONE NO:	61294490111	[redacted]	
FAX NO:		FAX NO:			
PROJECT NAME:	SA_0939_PFASOMP_23	PROJECT MANAGER	[redacted]		
PROJECT NO:	60612561 6.1	SAMPLERS:	NW/GC	SIGNED: [redacted]	

COMMENTS: SPECIAL HANDLING/STORAGE

ANALYSIS REQUIRED

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID	Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS (28 Analytes)				hold
N23/014622	EDN	EDN	Water	QC	0939_QC201_230707	07/07/2023	PFAS	-	2	1				
N23/014623	EDN	EDN	Water	QC	0939_QC202_230710	10/07/2023	PFAS	-	2					
N23/014624	EDN	EDN	Water	QC	0939_QC203_230710	10/07/2023	PFAS	-	2					
N23/014625	EDN	EDN	Water	QC	0939_QC204_230710	10/07/2023	PFAS	-	2					
N23/014626	EDN	EDN	Water	QC	0939_QC205_230711	11/07/2023	PFAS	-	2					
N23/014627	EDN	EDN	Water	QC	0939_QC206_230711	11/07/2023	PFAS	-	2					
N23/014628	EDN	EDN	Water	QC	0939_QC207_230711	11/07/2023	PFAS	-	2					
N23/014629	EDN	EDN	Water	QC	0939_QC208_230712	12/07/2023	PFAS	-	2					
N23/014630	EDN	EDN	Water	QC	0939_QC209_230712	12/07/2023	PFAS	-	2					
N23/014631	EDN	EDN	Water	QC	0939_QC210_230712	12/07/2023	PFAS	-	2					
N23/014632	EDN	EDN	Water	QC	0939_QC211_230712	12/07/2023	PFAS	-	2					
N23/014633	EDN	EDN	Water	QC	0939_QC212_230713	13/07/2023	PFAS	-	2					
N23/014634	EDN	EDN	Water	QC	0939_QC213_230713	13/07/2023	PFAS	-	2					
									TOTAL	1	0	0	0	0

25 JUL '23 14:44

Custody Seal ?	Y N NA	RELINQUISHED BY:	[redacted]	CHECKED:	
Samples Cold ?	Y N NA	DATE:	19/7/23	TIME:	
Comments:		RECEIVED BY:		CHECKED:	
		DATE:		TIME:	

CONTAINER TYPE AND PRESERVATIVE CODES

P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar

S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;

Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

26 JUL 2023
M 9:00 C

RELINQUISHED BY
ELP [ALS]
24-7-23 1730

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
154	0939_QC406_230713		13/07/2023 08:43 AM	WATER	ALS: 2 Non ALS: 0	No		X		
155	0939_QC112_230713		13/07/2023 11:25 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
156	0939_QC212_230713	Please forward to NMI (COC provided)	13/07/2023 11:26 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
157	0939_QC113_230713		13/07/2023 11:42 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
158	0939_QC213_230713	Please forward to NMI	13/07/2023 11:43 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
159	0939_SW037_230707		07/07/2023 03:24 PM	WATER	ALS: 2 Non ALS: 0	No		X		
160	0939_QC101_230707		07/07/2023 03:25 PM	WATER	ALS: 2 Non ALS: 0	No		X		
161	0939_QC201_230707	Please forward to NMI (COC provided)	07/07/2023 03:26 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 18/7 10-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
118	0939_SW059_230713		13/07/2023 10:54 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
119	0939_SW062_230713		13/07/2023 10:15 AM	WATER	ALS: 4 Non ALS: 0	Yes		-		
120	0939_SW078_230713		13/07/2023 10:06 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
121	0939_QC102_230710		10/07/2023 10:26 AM	WATER	ALS: 2 Non ALS: 0	No		X		
✓ 122	0939_QC202_230710	Please forward to NMI (COC provided)	10/07/2023 10:27 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
123	0939_QC103_230710		10/07/2023 12:38 PM	WATER	ALS: 2 Non ALS: 0	No		X		
✓ 124	0939_QC203_230710	Please forward to NMI (COC provided)	10/07/2023 12:39 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		
125	0939_QC104_230710		10/07/2023 02:25 PM	WATER	ALS: 2 Non ALS: 0	No		X		
✓ 126	0939_QC204_230710	Please forward to NMI (COC provided)	10/07/2023 02:26 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		

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CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: [redacted]
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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
127	0939_QC401_230707		10/07/2023 03:53 PM	WATER	ALS: 2 Non ALS: 0	No		X		
128	0939_QC402_230710		10/07/2023 03:54 PM	WATER	ALS: 2 Non ALS: 0	No		X		
129	0939_QC403_230710		10/07/2023 03:54 PM	WATER	ALS: 2 Non ALS: 0	No		X		
130	0939_QC301_230707		10/07/2023 03:56 PM	WATER	ALS: 2 Non ALS: 0	No		X		
131	0939_QC302_230710		10/07/2023 03:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
132	0939_QC303_230710		10/07/2023 03:58 PM	WATER	ALS: 2 Non ALS: 0	No		X		
133	0939_QC105_230711		11/07/2023 11:14 AM	WATER	ALS: 2 Non ALS: 0	No		X		
✓134	0939_QC205_230711	Please forward to NMI (COC provided)	11/07/2023 11:15 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
135	0939_QC106_230711		11/07/2023 11:37 AM	WATER	ALS: 2 Non ALS: 0	No		X		

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CHAIN OF CUSTODY

ALS COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] 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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
136	0939_QC206_230711	Please forward to NMI (COC provided)	11/07/2023 11:38 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
137	0939_QC107_230711		11/07/2023 12:03 PM	WATER	ALS: 2 Non ALS: 0	No		X		
138	0939_QC207_230711	Please forward to NMI (COC provided)	11/07/2023 12:04 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		
139	0939_QC304_230711		11/07/2023 03:03 PM	WATER	ALS: 2 Non ALS: 0	No		X		
140	0939_QC404_230711		11/07/2023 03:04 PM	WATER	ALS: 2 Non ALS: 0	No		X		
141	0939_MW4221_FF_230712		12/07/2023 08:29 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
142	0939_MW4222_FF_230712		12/07/2023 08:43 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
143	0939_QC108_230712		12/07/2023 10:56 AM	WATER	ALS: 2 Non ALS: 0	No		X		
144	0939_QC208_230712	Please forward to NMI (COC provided)	12/07/2023 10:57 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		

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CHAIN OF CUSTODY

ALS COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] 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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
145	0939_QC109_230712		12/07/2023 10:59 AM	WATER	ALS: 2 Non ALS: 0	No		X		
146	0939_QC209_230712	Please forward to NMI (COC provided)	12/07/2023 11:00 AM	WATER	ALS: 2 Non ALS: 0	Yes		-		
147	0939_QC110_230712		12/07/2023 04:07 PM	WATER	ALS: 2 Non ALS: 0	No		X		
148	0939_QC210_230712	Please forward to NMI (COC provided)	12/07/2023 04:08 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		
149	0939_QC111_230712		12/07/2023 04:08 PM	WATER	ALS: 2 Non ALS: 0	No		X		
150	0939_QC211_230712	Please forward to NMI (COC provided)	12/07/2023 04:09 PM	WATER	ALS: 2 Non ALS: 0	Yes		-		
151	0939_QC305_230712		12/07/2023 04:12 PM	WATER	ALS: 2 Non ALS: 0	No		X		
152	0939_QC405_230712		12/07/2023 04:13 PM	WATER	ALS: 2 Non ALS: 0	No		X		
153	0939_QC306_230713		13/07/2023 08:42 AM	WATER	ALS: 2 Non ALS: 0	No		X		

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AECO04|230726
Due: 15|8|23 A0

[redacted]

From: [redacted]
Sent:
To:
Cc:
Subject: RE: Sample Receipt Notification for Job AECO04/230726 [SEC=OFFICIAL]
Attachments: All pages from NMI_COC_Q2_2023.pdf

Hi Alland,

N23|014633

Are we able to please have samples QC212 and QC2013 analysed for PFAS please?

N23|014634

Thank you kindly,

[redacted]

Delivering a better world
LinkedIn | Twitter | Facebook | Instagram

[redacted]

Subject: RE: Sample Receipt Notification for Job AECO04/230726 [SEC=OFFICIAL]

[redacted]

Thanks for confirming. I will place QC212 and QC213 on hold.

The other samples will be tested and reported on 02/08/23.

Regards,

[redacted]

OFFICIAL

From: [redacted]
Sent: Thursday, 27 July 2023 4:19 PM
To: [redacted]
Cc:
Subject: RE: Sample Receipt Notification for Job AECO04/230726 [SEC=OFFICIAL]

Hi there thanks for that, apologies updated COC is attached.

QC212 and QC2013 are the only ones to be on hold.

CHAIN OF CUSTODY

(ALS) COC#: 54913 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: [redacted]
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 21/7/10.15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: MW4223

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0939_MW4223_230714		13/07/2023 11:53 AM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division
Melbourne
Work Order Reference
EM2312835

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 54913 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: MW4223

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE .	TYPE	FILTERED	REASON
001	0939_MW4223_230714	HDPE (no PTFE)	20 mL	00350522060397	Grey	No	
001	0939_MW4223_230714	HDPE (no PTFE)	20 mL	00350522060568	Grey	No	

Total Bottle Count: ALS: 2, Non ALS: 0

CHAIN OF CUSTODY

COC#: **54026** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 20/7, 10-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

FREIGHT

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0669_MW2325_230711		11/07/2023 09:28 AM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0939_MW2112_230710		10/07/2023 08:53 AM	WATER	ALS: 2 Non ALS: 0	No		X		
003	0939_MW2114_230711		11/07/2023 11:36 AM	WATER	ALS: 2 Non ALS: 0	No		X		
004	0939_MW2120_230710		10/07/2023 01:46 PM	WATER	ALS: 2 Non ALS: 0	No		X		
005	0939_MW2126_230710		10/07/2023 12:13 PM	WATER	ALS: 2 Non ALS: 0	No		X		
006	0939_MW2129_230710		10/07/2023 11:16 AM	WATER	ALS: 2 Non ALS: 0	No		X		
007	0939_MW2130_230711		11/07/2023 11:50 AM	WATER	ALS: 4 Non ALS: 0	No		X		
008	0939_MW2131_230711		11/07/2023 10:48 AM	WATER	ALS: 2 Non ALS: 0	No		X		
009	0939_MW2134_230711		11/07/2023 09:10 AM	WATER	ALS: 2 Non ALS: 0	No		X		

Environmental Division
Melbourne
Work Order Reference
EM2312858

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

COC#: **54026** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: [redacted] 20/7 10:45

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0939_MW2135_ 230711		11/07/2023 08:40 AM	WATER	ALS: 4 Non ALS: 0	No		X		
011	0939_MW2137_ 230710		10/07/2023 08:53 AM	WATER	ALS: 2 Non ALS: 0	No		X		
012	0939_MW2139_230710		10/07/2023 11:39 AM	WATER	ALS: 4 Non ALS: 0	No		X		
013	0939_MW2145_ 230710		10/07/2023 11:16 AM	WATER	ALS: 2 Non ALS: 0	No		X		
014	0939_MW2148_230712		12/07/2023 11:18 AM	WATER	ALS: 2 Non ALS: 0	No		X		
015	0939_MW2149_ 230707		07/07/2023 02:58 PM	WATER	ALS: 2 Non ALS: 0	No		X		
016	0939_MW2150_ 230707		07/07/2023 02:56 PM	WATER	ALS: 2 Non ALS: 0	No		X		
017	0939_MW2157_230711		11/07/2023 11:23 AM	WATER	ALS: 4 Non ALS: 0	No		X		
018	0939_MW2158_230712		12/07/2023 11:19 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: [redacted] 12-10-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

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]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0939_MW2159_230711		11/07/2023 10:09 AM	WATER	ALS: 2 Non ALS: 0	No		X		
020	0939_MW2162_230710		10/07/2023 12:11 PM	WATER	ALS: 2 Non ALS: 0	No		X		
021	0939_MW2166_230710		10/07/2023 11:47 AM	WATER	ALS: 2 Non ALS: 0	No		X		
022	0939_MW2169_230710		10/07/2023 11:21 AM	WATER	ALS: 4 Non ALS: 0	No		X		
023	0939_MW2172_230710		10/07/2023 10:34 AM	WATER	ALS: 2 Non ALS: 0	No		X		
024	0939_MW2173_230710		10/07/2023 10:39 AM	WATER	ALS: 2 Non ALS: 0	No		X		
025	0939_MW2175_230710		10/07/2023 09:53 AM	WATER	ALS: 2 Non ALS: 0	No		X		
026	0939_MW2176_230710		10/07/2023 09:52 AM	WATER	ALS: 2 Non ALS: 0	No		X		
027	0939_MW2177_230710		10/07/2023 09:49 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 24/7 10:15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

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]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0939_MW2180_230710		10/07/2023 09:34 AM	WATER	ALS: 4 Non ALS: 0	No		X		
029	0939_MW2182_230710		10/07/2023 09:30 AM	WATER	ALS: 2 Non ALS: 0	No		X		
030	0939_MW2183_230710		10/07/2023 09:30 AM	WATER	ALS: 2 Non ALS: 0	No		X		
031	0939_MW2184_230710		10/07/2023 09:08 AM	WATER	ALS: 2 Non ALS: 0	No		X		
032	0939_MW2185_230710		10/07/2023 08:57 AM	WATER	ALS: 2 Non ALS: 0	No		X		
033	0939_MW2188_230707		07/07/2023 02:55 PM	WATER	ALS: 2 Non ALS: 0	No		X		
034	0939_MW2189_230707		07/07/2023 02:54 PM	WATER	ALS: 2 Non ALS: 0	No		X		
035	0939_MW2193_230707		07/07/2023 02:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
036	0939_MW2194_230707		07/07/2023 02:58 PM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 21/8 10-15

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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0939_MW2197_230707		13/07/2023 02:59 PM	WATER	ALS: 2 Non ALS: 0	No		X		
038	0939_MW2200_230710		10/07/2023 01:58 PM	WATER	ALS: 2 Non ALS: 0	No		X		
039	0939_MW2201_230710		10/07/2023 02:08 PM	WATER	ALS: 4 Non ALS: 0	No		X		
040	0939_MW2202_230711		10/07/2023 01:47 PM	WATER	ALS: 2 Non ALS: 0	No		X		
041	0939_MW2203_230710		10/07/2023 02:24 PM	WATER	ALS: 2 Non ALS: 0	No		X		
042	0939_MW2209_230711		11/07/2023 11:01 AM	WATER	ALS: 2 Non ALS: 0	No		X		
043	0939_MW2210_230711		11/07/2023 10:47 AM	WATER	ALS: 2 Non ALS: 0	No		X		
044	0939_MW2216_230711		11/07/2023 08:39 AM	WATER	ALS: 4 Non ALS: 0	No		X		
045	0939_MW2218_230711		11/07/2023 09:09 AM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 18/7 10-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

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]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted] / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0939_MW2270_230710		10/07/2023 01:51 PM	WATER	ALS: 2 Non ALS: 0	No		X		
047	0939_MW2272_230712		12/07/2023 11:20 AM	WATER	ALS: 2 Non ALS: 0	No		X		
048	0939_MW2275_230710		10/07/2023 09:33 AM	WATER	ALS: 4 Non ALS: 0	No		X		
049	0939_MW2281_230710		10/07/2023 09:02 AM	WATER	ALS: 2 Non ALS: 0	No		X		
050	0939_MW2284_230712		12/07/2023 11:20 AM	WATER	ALS: 2 Non ALS: 0	No		X		
051	0939_MW2285_230710		10/07/2023 09:34 AM	WATER	ALS: 2 Non ALS: 0	No		X		
052	0939_MW2286_230710		10/07/2023 08:58 AM	WATER	ALS: 2 Non ALS: 0	No		X		
053	0939_MW2358_230710		10/07/2023 12:33 PM	WATER	ALS: 2 Non ALS: 0	No		X		
054	0939_MW2394_220725		10/07/2023 12:32 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 24/7-10-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0939_MW2490_230711		11/07/2023 11:54 AM	WATER	ALS: 2 Non ALS: 0	No		X		
056	0939_MW2499_230707		07/07/2023 02:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
057	0939_MW2501_230711		11/07/2023 09:32 AM	WATER	ALS: 4 Non ALS: 0	No		X		
058	0939_MW2528_230711		11/07/2023 11:13 AM	WATER	ALS: 2 Non ALS: 0	No		X		
059	0939_MW4001_230710		10/07/2023 02:41 PM	WATER	ALS: 2 Non ALS: 0	No		X		
060	0939_MW4003_230712		12/07/2023 02:56 PM	WATER	ALS: 4 Non ALS: 0	No		X		
061	0939_MW4009_230711		11/07/2023 02:15 PM	WATER	ALS: 2 Non ALS: 0	No		X		
062	0939_MW4013_230712		12/07/2023 02:55 PM	WATER	ALS: 4 Non ALS: 0	No		X		
063	0939_MW4015_230713		13/07/2023 08:37 AM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 21/7 10-14

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

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: [redacted]

PRIMARY SAMPLER: [redacted] QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0939_MW4020_230711		11/07/2023 01:58 PM	WATER	ALS: 2 Non ALS: 0	No		X		
065	0939_MW4021_230711		11/07/2023 01:56 PM	WATER	ALS: 2 Non ALS: 0	No		X		
066	0939_MW4022_230711		11/07/2023 02:09 PM	WATER	ALS: 2 Non ALS: 0	No		X		
067	0939_MW4023_230710		10/07/2023 02:46 PM	WATER	ALS: 2 Non ALS: 0	No		X		
068	0939_MW4024_230710		10/07/2023 02:50 PM	WATER	ALS: 4 Non ALS: 0	No		X		
069	0939_MW4035_230710		10/07/2023 02:51 PM	WATER	ALS: 4 Non ALS: 0	No		X		
070	0939_MW4037_230712		12/07/2023 12:57 PM	WATER	ALS: 4 Non ALS: 0	No		X		
071	0939_MW4041_230712		12/07/2023 09:02 AM	WATER	ALS: 2 Non ALS: 0	No		X		
072	0939_MW4045_230710		10/07/2023 02:52 PM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: [redacted] 21/7-10:15

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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0939_MW4048_230710		10/07/2023 02:42 PM	WATER	ALS: 2 Non ALS: 0	No		X		
074	0939_MW4052_230712		12/07/2023 09:11 AM	WATER	ALS: 2 Non ALS: 0	No		X		
075	0939_MW4053_230710		10/07/2023 02:53 PM	WATER	ALS: 2 Non ALS: 0	No		X		
076	0939_MW4055_230712		12/07/2023 09:41 AM	WATER	ALS: 4 Non ALS: 0	No		X		
077	0939_MW4057_230710		10/07/2023 02:45 PM	WATER	ALS: 2 Non ALS: 0	No		X		
078	0939_MW4058_230710		13/07/2023 02:39 PM	WATER	ALS: 2 Non ALS: 0	No		X		
079	0939_MW4059_230711		11/07/2023 02:51 PM	WATER	ALS: 2 Non ALS: 0	No		X		
080	0939_MW4060_230711		11/07/2023 02:27 PM	WATER	ALS: 2 Non ALS: 0	No		X		
081	0939_MW4061_230711		11/07/2023 01:22 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: [redacted] 12/7 @ 10-15

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 NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0939_MW4064_230712		12/07/2023 10:06 AM	WATER	ALS: 2 Non ALS: 0	No		X		
083	0939_MW4065_230711		11/07/2023 01:21 PM	WATER	ALS: 4 Non ALS: 0	No		X		
084	0939_MW4066_230710		10/07/2023 02:52 PM	WATER	ALS: 2 Non ALS: 0	No		X		
085	0939_MW4068_230710		10/07/2023 02:46 PM	WATER	ALS: 2 Non ALS: 0	No		X		
086	0939_MW4069_230710		10/07/2023 02:48 PM	WATER	ALS: 2 Non ALS: 0	No		X		
087	0939_MW4070_230710		10/07/2023 02:47 PM	WATER	ALS: 2 Non ALS: 0	No		X		
088	0939_MW4071_230710		10/07/2023 02:48 PM	WATER	ALS: 2 Non ALS: 0	No		X		
089	0939_MW4072_230712		12/07/2023 09:03 AM	WATER	ALS: 2 Non ALS: 0	No		X		
090	0939_MW4073_230710		10/07/2023 02:41 PM	WATER	ALS: 2 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: **54026** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 21/7 10:15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0939_MW4074_230710		10/07/2023 02:43 PM	WATER	ALS: 2 Non ALS: 0	No		X		
092	0939_MW4075_230710		10/07/2023 02:51 PM	WATER	ALS: 2 Non ALS: 0	No		X		
093	0939_MW4076_220728			WATER	ALS: 0 Non ALS: 0	No	-			
094	0939_MW4077_230711		11/07/2023 02:49 PM	WATER	ALS: 2 Non ALS: 0	No		X		
095	0939_MW4078_230710		10/07/2023 02:49 PM	WATER	ALS: 2 Non ALS: 0	No		X		
096	0939_MW4079_230710		13/07/2023 02:40 PM	WATER	ALS: 2 Non ALS: 0	No		X		
097	0939_MW4218_230711		11/07/2023 12:57 PM	WATER	ALS: 2 Non ALS: 0	No		X		
098	0939_MW4219_230712		12/07/2023 11:05 AM	WATER	ALS: 2 Non ALS: 0	No		X		
099	0939_MW4220_230712		12/07/2023 11:29 AM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0669_MW2325_230711	HDPE (no PTFE)	20 mL	00350522045707	Grey	No	
001	0669_MW2325_230711	HDPE (no PTFE)	20 mL	00350522060386	Grey	No	
001	0669_MW2325_230711	HDPE (no PTFE)	20 mL	00350522060549	Grey	No	
001	0669_MW2325_230711	HDPE (no PTFE)	20 mL	00350522060500	Grey	No	
002	0939_MW2112_230710	HDPE (no PTFE)	20 mL	00350522045659	Grey	No	
002	0939_MW2112_230710	HDPE (no PTFE)	20 mL	00350522045620	Grey	No	
003	0939_MW2114_230711	HDPE (no PTFE)	20 mL	00350522060514	Grey	No	
003	0939_MW2114_230711	HDPE (no PTFE)	20 mL	00350522045744	Grey	No	
004	0939_MW2120_230710	HDPE (no PTFE)	20 mL	00350522045717	Grey	No	
004	0939_MW2120_230710	HDPE (no PTFE)	20 mL	00350522045739	Grey	No	
005	0939_MW2126_230710	HDPE (no PTFE)	20 mL	00350522045886	Grey	No	
005	0939_MW2126_230710	HDPE (no PTFE)	20 mL	00350522060331	Grey	No	
006	0939_MW2129_230710	HDPE (no PTFE)	20 mL	00350522060394	Grey	No	
006	0939_MW2129_230710	HDPE (no PTFE)	20 mL	00350522045854	Grey	No	
007	0939_MW2130_230711	HDPE (no PTFE)	20 mL	00350522045903	Grey	No	
007	0939_MW2130_230711	HDPE (no PTFE)	20 mL	00350522060460	Grey	No	
007	0939_MW2130_230711	HDPE (no PTFE)	20 mL	00350522045860	Grey	No	
007	0939_MW2130_230711	HDPE (no PTFE)	20 mL	00350522060567	Grey	No	
008	0939_MW2131_230711	HDPE (no PTFE)	20 mL	00350522045711	Grey	No	
008	0939_MW2131_230711	HDPE (no PTFE)	20 mL	00350522045818	Grey	No	
009	0939_MW2134_230711	HDPE (no PTFE)	20 mL	00350522045867	Grey	No	
009	0939_MW2134_230711	HDPE (no PTFE)	20 mL	00350522060494	Grey	No	
010	0939_MW2135_230711	HDPE (no PTFE)	20 mL	00350522045671	Grey	No	
010	0939_MW2135_230711	HDPE (no PTFE)	20 mL	00350522045852	Grey	No	
010	0939_MW2135_230711	HDPE (no PTFE)	20 mL	00350522045814	Grey	No	
010	0939_MW2135_230711	HDPE (no PTFE)	20 mL	00350522045838	Grey	No	

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: [redacted]

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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:

011	0939_MW2137_230710	HDPE (no PTFE)	20 mL	00350522060384	Grey	No	
011	0939_MW2137_230710	HDPE (no PTFE)	20 mL	00350522060379	Grey	No	
012	0939_MW2139_230710	HDPE (no PTFE)	20 mL	00350522045676	Grey	No	
012	0939_MW2139_230710	HDPE (no PTFE)	20 mL	00350522045629	Grey	No	
012	0939_MW2139_230710	HDPE (no PTFE)	20 mL	00350522045727	Grey	No	
012	0939_MW2139_230710	HDPE (no PTFE)	20 mL	00350522045740	Grey	No	
013	0939_MW2145_230710	HDPE (no PTFE)	20 mL	00350522045775	Grey	No	
013	0939_MW2145_230710	HDPE (no PTFE)	20 mL	00350522060483	Grey	No	
014	0939_MW2148_230712	HDPE (no PTFE)	20 mL	00350522045692	Grey	No	
014	0939_MW2148_230712	HDPE (no PTFE)	20 mL	00350522045658	Grey	No	
015	0939_MW2149_230707	HDPE (no PTFE)	20 mL	00350522031511	Grey	No	
015	0939_MW2149_230707	HDPE (no PTFE)	20 mL	00350522031458	Grey	No	
016	0939_MW2150_230707	HDPE (no PTFE)	20 mL	00350522060480	Grey	No	
016	0939_MW2150_230707	HDPE (no PTFE)	20 mL	00350522060462	Grey	No	
017	0939_MW2157_230711	HDPE (no PTFE)	20 mL	00350522060478	Grey	No	
017	0939_MW2157_230711	HDPE (no PTFE)	20 mL	00350522045756	Grey	No	
017	0939_MW2157_230711	HDPE (no PTFE)	20 mL	00350522060411	Grey	No	
017	0939_MW2157_230711	HDPE (no PTFE)	20 mL	00350522045646	Grey	No	
018	0939_MW2158_230712	HDPE (no PTFE)	20 mL	00350522045862	Grey	No	
018	0939_MW2158_230712	HDPE (no PTFE)	20 mL	00350522060433	Grey	No	
019	0939_MW2159_230711	HDPE (no PTFE)	20 mL	00350522060399	Grey	No	
019	0939_MW2159_230711	HDPE (no PTFE)	20 mL	00350522045794	Grey	No	
020	0939_MW2162_230710	HDPE (no PTFE)	20 mL	00350522045896	Grey	No	
020	0939_MW2162_230710	HDPE (no PTFE)	20 mL	00350522060547	Grey	No	
021	0939_MW2166_230710	HDPE (no PTFE)	20 mL	00350522045855	Grey	No	
021	0939_MW2166_230710	HDPE (no PTFE)	20 mL	00350522045742	Grey	No	
022	0939_MW2169_230710	HDPE (no PTFE)	20 mL	00350522045883	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54026 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: [redacted]

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

022	0939_MW2169_230710	HDPE (no PTFE)	20 mL	00350522045758	Grey	No	
022	0939_MW2169_230710	HDPE (no PTFE)	20 mL	00350522045822	Grey	No	
022	0939_MW2169_230710	HDPE (no PTFE)	20 mL	00350522060355	Grey	No	
023	0939_MW2172_230710	HDPE (no PTFE)	20 mL	00350522021631	Grey	No	
023	0939_MW2172_230710	HDPE (no PTFE)	20 mL	00350522021759	Grey	No	
024	0939_MW2173_230710	HDPE (no PTFE)	20 mL	00350522045766	Grey	No	
024	0939_MW2173_230710	HDPE (no PTFE)	20 mL	00350522045686	Grey	No	
025	0939_MW2175_230710	HDPE (no PTFE)	20 mL	00350522060573	Grey	No	
025	0939_MW2175_230710	HDPE (no PTFE)	20 mL	00350522060587	Grey	No	
026	0939_MW2176_230710	HDPE (no PTFE)	20 mL	00350522045781	Grey	No	
026	0939_MW2176_230710	HDPE (no PTFE)	20 mL	00350522045658	Grey	No	
027	0939_MW2177_230710	HDPE (no PTFE)	20 mL	00350522060445	Grey	No	
027	0939_MW2177_230710	HDPE (no PTFE)	20 mL	00350522045768	Grey	No	
028	0939_MW2180_230710	HDPE (no PTFE)	20 mL	00350522060447	Grey	No	
028	0939_MW2180_230710	HDPE (no PTFE)	20 mL	00350522060408	Grey	No	
028	0939_MW2180_230710	HDPE (no PTFE)	20 mL	00350522060405	Grey	No	
028	0939_MW2180_230710	HDPE (no PTFE)	20 mL	00350522060456	Grey	No	
029	0939_MW2182_230710	HDPE (no PTFE)	20 mL	00350522045662	Grey	No	
029	0939_MW2182_230710	HDPE (no PTFE)	20 mL	00350522045639	Grey	No	
030	0939_MW2183_230710	HDPE (no PTFE)	20 mL	00350522060337	Grey	No	
030	0939_MW2183_230710	HDPE (no PTFE)	20 mL	00350522060381	Grey	No	
031	0939_MW2184_230710	HDPE (no PTFE)	20 mL	00350522060540	Grey	No	
031	0939_MW2184_230710	HDPE (no PTFE)	20 mL	00350522045685	Grey	No	
032	0939_MW2185_230710	HDPE (no PTFE)	20 mL	00350522060472	Grey	No	
032	0939_MW2185_230710	HDPE (no PTFE)	20 mL	00350522045699	Grey	No	
033	0939_MW2188_230707	HDPE (no PTFE)	20 mL	00350522021778	Grey	No	
033	0939_MW2188_230707	HDPE (no PTFE)	20 mL	00350522021883	Grey	No	

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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:			

034	0939_MW2189_230707	HDPE (no PTFE)	20 mL	00350522031527	Grey	No	
034	0939_MW2189_230707	HDPE (no PTFE)	20 mL	00350522031556	Grey	No	
035	0939_MW2193_230707	HDPE (no PTFE)	20 mL	00350522021816	Grey	No	
035	0939_MW2193_230707	HDPE (no PTFE)	20 mL	00350522021698	Grey	No	
036	0939_MW2194_230707	HDPE (no PTFE)	20 mL	00350522031534	Grey	No	
036	0939_MW2194_230707	HDPE (no PTFE)	20 mL	00350522061980	Grey	No	
036	0939_MW2194_230707	HDPE (no PTFE)	20 mL	00350522061943	Grey	No	
036	0939_MW2194_230707	HDPE (no PTFE)	20 mL	00350522031736	Grey	No	
037	0939_MW2197_230707	HDPE (no PTFE)	20 mL	00350522021673	Grey	No	
037	0939_MW2197_230707	HDPE (no PTFE)	20 mL	00350522021792	Grey	No	
038	0939_MW2200_230710	HDPE (no PTFE)	20 mL	00350522060552	Grey	No	
038	0939_MW2200_230710	HDPE (no PTFE)	20 mL	00350522060489	Grey	No	
039	0939_MW2201_230710	HDPE (no PTFE)	20 mL	00350522045665	Grey	No	
039	0939_MW2201_230710	HDPE (no PTFE)	20 mL	00350522045657	Grey	No	
039	0939_MW2201_230710	HDPE (no PTFE)	20 mL	00350522060535	Grey	No	
039	0939_MW2201_230710	HDPE (no PTFE)	20 mL	00350522060421	Grey	No	
040	0939_MW2202_230711	HDPE (no PTFE)	20 mL	00350522060477	Grey	No	
040	0939_MW2202_230711	HDPE (no PTFE)	20 mL	00350522060525	Grey	No	
041	0939_MW2203_230710	HDPE (no PTFE)	20 mL	00350522060437	Grey	No	
041	0939_MW2203_230710	HDPE (no PTFE)	20 mL	00350522060416	Grey	No	
042	0939_MW2209_230711	HDPE (no PTFE)	20 mL	00350522045823	Grey	No	
042	0939_MW2209_230711	HDPE (no PTFE)	20 mL	00350522060426	Grey	No	
043	0939_MW2210_230711	HDPE (no PTFE)	20 mL	00350522045921	Grey	No	
043	0939_MW2210_230711	HDPE (no PTFE)	20 mL	00350522045866	Grey	No	
044	0939_MW2216_230711	HDPE (no PTFE)	20 mL	00350522045743	Grey	No	
044	0939_MW2216_230711	HDPE (no PTFE)	20 mL	00350522060607	Grey	No	
044	0939_MW2216_230711	HDPE (no PTFE)	20 mL	00350522060467	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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:

044	0939_MW2216_230711	HDPE (no PTFE)	20 mL	00350522045726	Grey	No	
045	0939_MW2218_230711	HDPE (no PTFE)	20 mL	00350522060578	Grey	No	
045	0939_MW2218_230711	HDPE (no PTFE)	20 mL	00350522045869	Grey	No	
046	0939_MW2270_230710	HDPE (no PTFE)	20 mL	00350522045754	Grey	No	
046	0939_MW2270_230710	HDPE (no PTFE)	20 mL	00350522060409	Grey	No	
047	0939_MW2272_230712	HDPE (no PTFE)	20 mL	00350522060618	Grey	No	
047	0939_MW2272_230712	HDPE (no PTFE)	20 mL	00350522060403	Grey	No	
048	0939_MW2275_230710	HDPE (no PTFE)	20 mL	00350522045873	Grey	No	
048	0939_MW2275_230710	HDPE (no PTFE)	20 mL	00350522045737	Grey	No	
048	0939_MW2275_230710	HDPE (no PTFE)	20 mL	00350522045845	Grey	No	
048	0939_MW2275_230710	HDPE (no PTFE)	20 mL	00350522045877	Grey	No	
049	0939_MW2281_230710	HDPE (no PTFE)	20 mL	00350522060359	Grey	No	
049	0939_MW2281_230710	HDPE (no PTFE)	20 mL	00350522045637	Grey	No	
050	0939_MW2284_230712	HDPE (no PTFE)	20 mL	00350522045865	Grey	No	
050	0939_MW2284_230712	HDPE (no PTFE)	20 mL	00350522060485	Grey	No	
051	0939_MW2285_230710	HDPE (no PTFE)	20 mL	00350522045632	Grey	No	
051	0939_MW2285_230710	HDPE (no PTFE)	20 mL	00350522045772	Grey	No	
052	0939_MW2286_230710	HDPE (no PTFE)	20 mL	00350522045752	Grey	No	
052	0939_MW2286_230710	HDPE (no PTFE)	20 mL	00350522060609	Grey	No	
053	0939_MW2358_230710	HDPE (no PTFE)	20 mL	00350522045878	Grey	No	
053	0939_MW2358_230710	HDPE (no PTFE)	20 mL	00350522045679	Grey	No	
054	0939_MW2394_220725	HDPE (no PTFE)	20 mL	00350522060544	Grey	No	
054	0939_MW2394_220725	HDPE (no PTFE)	20 mL	00350522060529	Grey	No	
055	0939_MW2490_230711	HDPE (no PTFE)	20 mL	00350522060530	Grey	No	
055	0939_MW2490_230711	HDPE (no PTFE)	20 mL	00350522045708	Grey	No	
056	0939_MW2499_230707	HDPE (no PTFE)	20 mL	00350522031716	Grey	No	
056	0939_MW2499_230707	HDPE (no PTFE)	20 mL	00350522031612	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 54026 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

057	0939_MW2501_230711	HDPE (no PTFE)	20 mL	00350522045673	Grey	No	
057	0939_MW2501_230711	HDPE (no PTFE)	20 mL	00350522060527	Grey	No	
057	0939_MW2501_230711	HDPE (no PTFE)	20 mL	00350522045753	Grey	No	
057	0939_MW2501_230711	HDPE (no PTFE)	20 mL	00350522045672	Grey	No	
058	0939_MW2528_230711	HDPE (no PTFE)	20 mL	00350522060422	Grey	No	
058	0939_MW2528_230711	HDPE (no PTFE)	20 mL	00350522060487	Grey	No	
059	0939_MW4001_230710	HDPE (no PTFE)	20 mL	00350522021880	Grey	No	
059	0939_MW4001_230710	HDPE (no PTFE)	20 mL	00350522021889	Grey	No	
060	0939_MW4003_230712	HDPE (no PTFE)	20 mL	00350522045901	Grey	No	
060	0939_MW4003_230712	HDPE (no PTFE)	20 mL	00350522045714	Grey	No	
060	0939_MW4003_230712	HDPE (no PTFE)	20 mL	00350522045828	Grey	No	
060	0939_MW4003_230712	HDPE (no PTFE)	20 mL	00350522060588	Grey	No	
061	0939_MW4009_230711	HDPE (no PTFE)	20 mL	00350522045844	Grey	No	
061	0939_MW4009_230711	HDPE (no PTFE)	20 mL	00350522045853	Grey	No	
062	0939_MW4013_230712	HDPE (no PTFE)	20 mL	00350522060449	Grey	No	
062	0939_MW4013_230712	HDPE (no PTFE)	20 mL	00350522045704	Grey	No	
062	0939_MW4013_230712	HDPE (no PTFE)	20 mL	00350522045649	Grey	No	
062	0939_MW4013_230712	HDPE (no PTFE)	20 mL	00350522060520	Grey	No	
063	0939_MW4015_230713	HDPE (no PTFE)	20 mL	00350522060596	Grey	No	
063	0939_MW4015_230713	HDPE (no PTFE)	20 mL	00350522060351	Grey	No	
063	0939_MW4015_230713	HDPE (no PTFE)	20 mL	00350522045771	Grey	No	
063	0939_MW4015_230713	HDPE (no PTFE)	20 mL	00350522045787	Grey	No	
064	0939_MW4020_230711	HDPE (no PTFE)	20 mL	00350522045881	Grey	No	
064	0939_MW4020_230711	HDPE (no PTFE)	20 mL	00350522060412	Grey	No	
065	0939_MW4021_230711	HDPE (no PTFE)	20 mL	00350522045773	Grey	No	
065	0939_MW4021_230711	HDPE (no PTFE)	20 mL	00350522045843	Grey	No	
066	0939_MW4022_230711	HDPE (no PTFE)	20 mL	00350522045897	Grey	No	

CHAIN OF CUSTODY

COC#: 54026 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

066	0939_MW4022_230711	HDPE (no PTFE)	20 mL	00350522060327	Grey	No	
067	0939_MW4023_230710	HDPE (no PTFE)	20 mL	00350522021879	Grey	No	
067	0939_MW4023_230710	HDPE (no PTFE)	20 mL	00350522021794	Grey	No	
068	0939_MW4024_230710	HDPE (no PTFE)	20 mL	00350522054253	Grey	No	
068	0939_MW4024_230710	HDPE (no PTFE)	20 mL	00350522060584	Grey	No	
068	0939_MW4024_230710	HDPE (no PTFE)	20 mL	00350522060556	Grey	No	
068	0939_MW4024_230710	HDPE (no PTFE)	20 mL	00350522054193	Grey	No	
069	0939_MW4035_230710	HDPE (no PTFE)	20 mL	00350522021640	Grey	No	
069	0939_MW4035_230710	HDPE (no PTFE)	20 mL	00350522045623	Grey	No	
069	0939_MW4035_230710	HDPE (no PTFE)	20 mL	00350522021902	Grey	No	
069	0939_MW4035_230710	HDPE (no PTFE)	20 mL	00350522060528	Grey	No	
070	0939_MW4037_230712	HDPE (no PTFE)	20 mL	00350522060526	Grey	No	
070	0939_MW4037_230712	HDPE (no PTFE)	20 mL	00350522060340	Grey	No	
070	0939_MW4037_230712	HDPE (no PTFE)	20 mL	00350522060444	Grey	No	
070	0939_MW4037_230712	HDPE (no PTFE)	20 mL	00350522060580	Grey	No	
071	0939_MW4041_230712	HDPE (no PTFE)	20 mL	00350522045654	Grey	No	
071	0939_MW4041_230712	HDPE (no PTFE)	20 mL	00350522045778	Grey	No	
072	0939_MW4045_230710	HDPE (no PTFE)	20 mL	00350522016320	Grey	No	
072	0939_MW4045_230710	HDPE (no PTFE)	20 mL	00352101046196	Grey	No	
072	0939_MW4045_230710	HDPE (no PTFE)	20 mL	00352101001472	Grey	No	
072	0939_MW4045_230710	HDPE (no PTFE)	20 mL	00350522016132	Grey	No	
073	0939_MW4048_230710	HDPE (no PTFE)	20 mL	00350522045720	Grey	No	
073	0939_MW4048_230710	HDPE (no PTFE)	20 mL	00350522045663	Grey	No	
074	0939_MW4052_230712	HDPE (no PTFE)	20 mL	00350522045762	Grey	No	
074	0939_MW4052_230712	HDPE (no PTFE)	20 mL	00350522045723	Grey	No	
075	0939_MW4053_230710	HDPE (no PTFE)	20 mL	00350522021760	Grey	No	
075	0939_MW4053_230710	HDPE (no PTFE)	20 mL	00350522021872	Grey	No	

CHAIN OF CUSTODY

COC#: 54026 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES 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:

076	0939_MW4055_230712	HDPE (no PTFE)	20 mL	00350522060533	Grey	No	
076	0939_MW4055_230712	HDPE (no PTFE)	20 mL	00350522045680	Grey	No	
076	0939_MW4055_230712	HDPE (no PTFE)	20 mL	00350522060341	Grey	No	
076	0939_MW4055_230712	HDPE (no PTFE)	20 mL	00350522060349	Grey	No	
077	0939_MW4057_230710	HDPE (no PTFE)	20 mL	00350522064485	Grey	No	
077	0939_MW4057_230710	HDPE (no PTFE)	20 mL	00350522064062	Grey	No	
078	0939_MW4058_230710	HDPE (no PTFE)	20 mL	00350522016229	Grey	No	
078	0939_MW4058_230710	HDPE (no PTFE)	20 mL	00350522016184	Grey	No	
079	0939_MW4059_230711	HDPE (no PTFE)	20 mL	00350522060435	Grey	No	
079	0939_MW4059_230711	HDPE (no PTFE)	20 mL	00350522045763	Grey	No	
080	0939_MW4060_230711	HDPE (no PTFE)	20 mL	00350522045618	Grey	No	
080	0939_MW4060_230711	HDPE (no PTFE)	20 mL	00350522045641	Grey	No	
081	0939_MW4061_230711	HDPE (no PTFE)	20 mL	00350522060334	Grey	No	
081	0939_MW4061_230711	HDPE (no PTFE)	20 mL	00350522045774	Grey	No	
082	0939_MW4064_230712	HDPE (no PTFE)	20 mL	00350522060571	Grey	No	
082	0939_MW4064_230712	HDPE (no PTFE)	20 mL	00350522045710	Grey	No	
083	0939_MW4065_230711	HDPE (no PTFE)	20 mL	00350522045838	Grey	No	
083	0939_MW4065_230711	HDPE (no PTFE)	20 mL	00350522060570	Grey	No	
083	0939_MW4065_230711	HDPE (no PTFE)	20 mL	00350522045747	Grey	No	
083	0939_MW4065_230711	HDPE (no PTFE)	20 mL	00350522045789	Grey	No	
084	0939_MW4066_230710	HDPE (no PTFE)	20 mL	00350522018764	Grey	No	
084	0939_MW4066_230710	HDPE (no PTFE)	20 mL	00350621010407	Grey	No	
085	0939_MW4068_230710	HDPE (no PTFE)	20 mL	00350522064324	Grey	No	
085	0939_MW4068_230710	HDPE (no PTFE)	20 mL	00350522064515	Grey	No	
086	0939_MW4069_230710	HDPE (no PTFE)	20 mL	00350522021726	Grey	No	
086	0939_MW4069_230710	HDPE (no PTFE)	20 mL	00350522021864	Grey	No	
087	0939_MW4070_230710	HDPE (no PTFE)	20 mL	00350621019378	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 54026 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP_23

SITE: 0939_EDN_July

ORDER NO: 60612561

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 V3 / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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:

087	0939_MW4070_230710	HDPE (no PTFE)	20 mL	00350621019536	Grey	No	
088	0939_MW4071_230710	HDPE (no PTFE)	20 mL	00350522021882	Grey	No	
088	0939_MW4071_230710	HDPE (no PTFE)	20 mL	00350522021706	Grey	No	
089	0939_MW4072_230712	HDPE (no PTFE)	20 mL	00350522060455	Grey	No	
089	0939_MW4072_230712	HDPE (no PTFE)	20 mL	00350522045694	Grey	No	
090	0939_MW4073_230710	HDPE (no PTFE)	20 mL	00350522018713	Grey	No	
090	0939_MW4073_230710	HDPE (no PTFE)	20 mL	00350522019003	Grey	No	
091	0939_MW4074_230710	HDPE (no PTFE)	20 mL	00350522064310	Grey	No	
091	0939_MW4074_230710	HDPE (no PTFE)	20 mL	00350522064209	Grey	No	
092	0939_MW4075_230710	HDPE (no PTFE)	20 mL	00350621019291	Grey	No	
092	0939_MW4075_230710	HDPE (no PTFE)	20 mL	00350621019381	Grey	No	
094	0939_MW4077_230711	HDPE (no PTFE)	20 mL	00350522045728	Grey	No	
094	0939_MW4077_230711	HDPE (no PTFE)	20 mL	00350522060342	Grey	No	
095	0939_MW4078_230710	HDPE (no PTFE)	20 mL	00350821010419	Grey	No	
095	0939_MW4078_230710	HDPE (no PTFE)	20 mL	00350522018732	Grey	No	
096	0939_MW4079_230710	HDPE (no PTFE)	20 mL	00350522064021	Grey	No	
096	0939_MW4079_230710	HDPE (no PTFE)	20 mL	00350522064138	Grey	No	
097	0939_MW4218_230711	HDPE (no PTFE)	20 mL	00350522060531	Grey	No	
097	0939_MW4218_230711	HDPE (no PTFE)	20 mL	00350522060352	Grey	No	
098	0939_MW4219_230712	HDPE (no PTFE)	20 mL	00350522045894	Grey	No	
098	0939_MW4219_230712	HDPE (no PTFE)	20 mL	00350522045804	Grey	No	
099	0939_MW4220_230712	HDPE (no PTFE)	20 mL	00350522045904	Grey	No	
099	0939_MW4220_230712	HDPE (no PTFE)	20 mL	00350522045764	Grey	No	
099	0939_MW4220_230712	HDPE (no PTFE)	20 mL	00350522045848	Grey	No	
099	0939_MW4220_230712	HDPE (no PTFE)	20 mL	00350522060385	Grey	No	
100	0939_MW4221_230712	HDPE (no PTFE)	20 mL	00350522060378	Grey	No	
100	0939_MW4221_230712	HDPE (no PTFE)	20 mL	00350522045690	Grey	No	

Rebatch

Client / Client code: AECOMAU
Project: SA_0939_PFASOMP_23
Project Manager: [redacted]
Date /time sample rec: 21/07/2023 0:00
Date/time Instructions rec: Tue 8/08/2023 12:59 PM
Due date: Tuesday, 15 August 2023
Due date surcharge: **STANDARD**

CS Contact: DAI/ PETER
Additional Information:
Please add reports for all recipients as per main work order and client who requested.

Environmental Division
Melbourne
Work Order Reference
EM2314213

Telephone : + 61-3-8549 9600

New Lab ID	Sample information: Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of Containers	Analysis: Standard: EP231X FULL	Standard	Standard	Standard	Standard	Leach	Leach	Leach	Leach	Leach	Shortest Holding time expiry
1	0939_SW006_230713	13/07/2023 0:00		103				X										09-Jan-24
2	0939_SW009_230713	13/07/2023 0:00		104				X										09-Jan-24
3	0939_SW010_230713	13/07/2023 0:00		105				X										09-Jan-24
4	0939_SW011_230713	13/07/2023 0:00		106				X										09-Jan-24
5	0939_SW012_230713	13/07/2023 0:00		107				X										09-Jan-24
6	0939_SW028_230707	7/07/2023 0:00		112				X										03-Jan-24
7	0939_SW029_230707	13/07/2023 0:00		113				X										09-Jan-24
8	0939_SW032_230713	13/07/2023 0:00	EM2312858	114	MPW 401-406			X										09-Jan-24
9	0939_SW050_230711	11/07/2023 0:00		115				X										07-Jan-24
10	0939_SW054_230711	11/07/2023 0:00		116				X										07-Jan-24
11	0939_SW058_230713	13/07/2023 0:00		117				X										09-Jan-24
12	0939_SW059_230713	13/07/2023 0:00		118				X										09-Jan-24
13	0939_SW062_230713	13/07/2023 0:00		119				X										09-Jan-24
14	0939_SW078_230713	13/07/2023 0:00		120				X										09-Jan-24
15	0939_QC112_230713	13/07/2023 0:00		155				X										09-Jan-24
16	0939_QC113_230713	13/07/2023 0:00		157				X										09-Jan-24
																		28-Jun-00
																		28-Jun-00
																		28-Jun-00
																		28-Jun-00
																		28-Jun-00
																		28-Jun-00
																		28-Jun-00
						TOTAL	0											

[redacted]

From: [redacted]
Sent: Tuesday, 8 August 2023 12:59 PM
To:
Cc: [redacted]
Subject: [EXTERNAL] - RE: SRN for ALS Workorder : EM2312858 | Your Reference: SA_0939 _PFASOMP_23
Attachments: EM2312858_COC_1.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi ALS team,

Can we please have the following on hold samples analysed for PFAS

0939_SW006_230713
0939_SW009_230713
0939_SW010_230713
0939_SW011_230713
0939_SW012_230713
0939_SW028_220727 – please also rename sample to 0939_SW028_230707
0939_SW029_230707
0939_SW032_230713
0939_SW050_230711
0939_SW054_230711
0939_SW058_230713
0939_SW059_230713
0939_SW062_230713
0939_SW078_230713
0939_QC112_230713
0939_QC113_230713

This list should be the remainder of all samples placed on hold for this batch, please advise if that is not the case.

Could we please have these samples produced in a different lab batch as well (as opposed to reissuing EM2312858 again).

Thank you kindly,

[redacted]

Appendix E

Laboratory Certificates

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2312858**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	[redacted]
Telephone	: ----	Telephone	
Facsimile	: ----	Facsimile	
Project	: SA_0939_PFASOMP_23	Page	: 1 of 7
Order number	: 60612561	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: 54026	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0939_EDN_July		
Sampler	: [redacted]		

Dates

Date Samples Received	: 21-Jul-2023 10:15	Issue Date	: 25-Jul-2023
Client Requested Due Date	: 28-Jul-2023	Scheduled Reporting Date	: **26-Jul-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 4.0°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 158 / 129

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- 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.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2312858-122	: 10-Jul-2023 10:27	: 0939_QC202_230710 - Please forward to NMI (COC provided)
EM2312858-124	: 10-Jul-2023 12:39	: 0939_QC203_230710 - Please forward to NMI (COC provided)
EM2312858-126	: 10-Jul-2023 14:26	: 0939_QC204_230710 - Please forward to NMI (COC provided)
EM2312858-134	: 11-Jul-2023 11:15	: 0939_QC205_230711 - Please forward to NMI (COC provided)
EM2312858-136	: 11-Jul-2023 11:38	: 0939_QC206_230711 - Please forward to NMI (COC provided)
EM2312858-138	: 11-Jul-2023 12:04	: 0939_QC207_230711 - Please forward to NMI (COC provided)
EM2312858-141	: 12-Jul-2023 08:29	: 0939_MW4221_FF_230712
EM2312858-142	: 12-Jul-2023 08:43	: 0939_MW4222_FF_230712
EM2312858-144	: 12-Jul-2023 10:57	: 0939_QC208_230712 - Please forward to NMI (COC provided)
EM2312858-146	: 12-Jul-2023 11:00	: 0939_QC209_230712 - Please forward to NMI (COC provided)
EM2312858-148	: 12-Jul-2023 16:08	: 0939_QC210_230712 - Please forward to NMI (COC provided)
EM2312858-150	: 12-Jul-2023 16:09	: 0939_QC211_230712 - Please forward to NMI (COC provided)
EM2312858-156	: 13-Jul-2023 11:26	: 0939_QC212_230713 - Please forward to NMI (COC provided)
EM2312858-158	: 13-Jul-2023 11:43	: 0939_QC213_230713 - Please forward to NMI
EM2312858-161	: 07-Jul-2023 15:26	: 0939_QC201_230707 - Please forward to NMI (COC provided)

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)
EM2312858-001	11-Jul-2023 09:28	0669_MW2325_ 230711		✓
EM2312858-002	10-Jul-2023 08:53	0939_MW2112_ 230710		✓
EM2312858-003	11-Jul-2023 11:36	0939_MW2114_ 230711		✓
EM2312858-004	10-Jul-2023 13:46	0939_MW2120_230710		✓
EM2312858-005	10-Jul-2023 12:13	0939_MW2126_ 230710		✓
EM2312858-006	10-Jul-2023 11:16	0939_MW2129_ 230710		✓
EM2312858-007	11-Jul-2023 11:50	0939_MW2130_ 230711		✓
EM2312858-008	11-Jul-2023 10:48	0939_MW2131_ 230711		✓
EM2312858-009	11-Jul-2023 09:10	0939_MW2134_ 230711		✓
EM2312858-010	11-Jul-2023 08:40	0939_MW2135_ 230711		✓
EM2312858-011	10-Jul-2023 08:53	0939_MW2137_ 230710		✓
EM2312858-012	10-Jul-2023 11:39	0939_MW2139_230710		✓
EM2312858-013	10-Jul-2023 11:16	0939_MW2145_ 230710		✓
EM2312858-014	12-Jul-2023 11:18	0939_MW2148_230712		✓
EM2312858-015	07-Jul-2023 14:58	0939_MW2149_ 230707		✓
EM2312858-016	07-Jul-2023 14:56	0939_MW2150_ 230707		✓
EM2312858-017	11-Jul-2023 11:23	0939_MW2157_230711		✓
EM2312858-018	12-Jul-2023 11:19	0939_MW2158_230712		✓
EM2312858-019	11-Jul-2023 10:09	0939_MW2159_ 230711		✓
EM2312858-020	10-Jul-2023 12:11	0939_MW2162_ 230710		✓
EM2312858-021	10-Jul-2023 11:47	0939_MW2166_230710		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2312858-022	10-Jul-2023 11:21	0939_MW2169_230710		✓
EM2312858-023	10-Jul-2023 10:34	0939_MW2172_ 230710		✓
EM2312858-024	10-Jul-2023 10:39	0939_MW2173_ 230710		✓
EM2312858-025	10-Jul-2023 09:53	0939_MW2175_230710		✓
EM2312858-026	10-Jul-2023 09:52	0939_MW2176_ 230710		✓
EM2312858-027	10-Jul-2023 09:49	0939_MW2177_ 230710		✓
EM2312858-028	10-Jul-2023 09:34	0939_MW2180_ 230710		✓
EM2312858-029	10-Jul-2023 09:30	0939_MW2182_ 230710		✓
EM2312858-030	10-Jul-2023 09:30	0939_MW2183_ 230710		✓
EM2312858-031	10-Jul-2023 09:08	0939_MW2184_ 230710		✓
EM2312858-032	10-Jul-2023 08:57	0939_MW2185_ 230710		✓
EM2312858-033	07-Jul-2023 14:55	0939_MW2188_ 230707		✓
EM2312858-034	07-Jul-2023 14:54	0939_MW2189_ 230707		✓
EM2312858-035	07-Jul-2023 14:57	0939_MW2193_ 230707		✓
EM2312858-036	07-Jul-2023 14:58	0939_MW2194_ 230707		✓
EM2312858-037	13-Jul-2023 14:59	0939_MW2197_ 230707		✓
EM2312858-038	10-Jul-2023 13:58	0939_MW2200_ 230710		✓
EM2312858-039	10-Jul-2023 14:08	0939_MW2201_ 230710		✓
EM2312858-040	10-Jul-2023 13:47	0939_MW2202_230711		✓
EM2312858-041	10-Jul-2023 14:24	0939_MW2203_ 230710		✓
EM2312858-042	11-Jul-2023 11:01	0939_MW2209_230711		✓
EM2312858-043	11-Jul-2023 10:47	0939_MW2210_ 230711		✓
EM2312858-044	11-Jul-2023 08:39	0939_MW2216_230711		✓
EM2312858-045	11-Jul-2023 09:09	0939_MW2218_ 230711		✓
EM2312858-046	10-Jul-2023 13:51	0939_MW2270_ 230710		✓
EM2312858-047	12-Jul-2023 11:20	0939_MW2272_230712		✓
EM2312858-048	10-Jul-2023 09:33	0939_MW2275_ 230710		✓
EM2312858-049	10-Jul-2023 09:02	0939_MW2281_ 230710		✓
EM2312858-050	12-Jul-2023 11:20	0939_MW2284_230712		✓
EM2312858-051	10-Jul-2023 09:34	0939_MW2285_ 230710		✓
EM2312858-052	10-Jul-2023 08:58	0939_MW2286_ 230710		✓
EM2312858-053	10-Jul-2023 12:33	0939_MW2358_ 230710		✓
EM2312858-054	10-Jul-2023 12:32	0939_MW2394_220710		✓
EM2312858-055	11-Jul-2023 11:54	0939_MW2490_ 230711		✓
EM2312858-056	07-Jul-2023 14:57	0939_MW2499_ 230707		✓
EM2312858-057	11-Jul-2023 09:32	0939_MW2501_ 230711		✓
EM2312858-058	11-Jul-2023 11:13	0939_MW2528_230711		✓
EM2312858-059	10-Jul-2023 14:41	0939_MW4001_ 230710		✓
EM2312858-060	12-Jul-2023 14:56	0939_MW4003_230712		✓
EM2312858-061	11-Jul-2023 14:15	0939_MW4009_230711		✓
EM2312858-062	12-Jul-2023 14:55	0939_MW4013_230712		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2312858-063	13-Jul-2023 08:37	0939_MW4015_230713		✓
EM2312858-064	11-Jul-2023 13:58	0939_MW4020_230711		✓
EM2312858-065	11-Jul-2023 13:56	0939_MW4021_230711		✓
EM2312858-066	11-Jul-2023 14:09	0939_MW4022_230711		✓
EM2312858-067	10-Jul-2023 14:46	0939_MW4023_ 230710		✓
EM2312858-068	10-Jul-2023 14:50	0939_MW4024_ 230710		✓
EM2312858-069	10-Jul-2023 14:51	0939_MW4035_ 230710		✓
EM2312858-070	12-Jul-2023 12:57	0939_MW4037_230712		✓
EM2312858-071	12-Jul-2023 09:02	0939_MW4041_230712		✓
EM2312858-072	10-Jul-2023 14:52	0939_MW4045_ 230710		✓
EM2312858-073	10-Jul-2023 14:42	0939_MW4048_ 230710		✓
EM2312858-074	12-Jul-2023 09:11	0939_MW4052_230712		✓
EM2312858-075	10-Jul-2023 14:53	0939_MW4053_ 230710		✓
EM2312858-076	12-Jul-2023 09:41	0939_MW4055_230712		✓
EM2312858-077	10-Jul-2023 14:45	0939_MW4057_ 230710		✓
EM2312858-078	13-Jul-2023 14:39	0939_MW4058_230710		✓
EM2312858-079	11-Jul-2023 14:51	0939_MW4059_230711		✓
EM2312858-080	11-Jul-2023 14:27	0939_MW4060_230711		✓
EM2312858-081	11-Jul-2023 13:22	0939_MW4061_230711		✓
EM2312858-082	12-Jul-2023 10:06	0939_MW4064_230712		✓
EM2312858-083	11-Jul-2023 13:21	0939_MW4065_230711		✓
EM2312858-084	10-Jul-2023 14:52	0939_MW4066_ 230710		✓
EM2312858-085	10-Jul-2023 14:46	0939_MW4068_ 230710		✓
EM2312858-086	10-Jul-2023 14:48	0939_MW4069_ 230710		✓
EM2312858-087	10-Jul-2023 14:47	0939_MW4070_ 230710		✓
EM2312858-088	10-Jul-2023 14:48	0939_MW4071_ 230710		✓
EM2312858-089	12-Jul-2023 09:03	0939_MW4072_230712		✓
EM2312858-090	10-Jul-2023 14:41	0939_MW4073_ 230710		✓
EM2312858-091	10-Jul-2023 14:43	0939_MW4074_ 230710		✓
EM2312858-092	10-Jul-2023 14:51	0939_MW4075_ 230710		✓
EM2312858-094	11-Jul-2023 14:49	0939_MW4077_230711		✓
EM2312858-095	10-Jul-2023 14:49	0939_MW4078_ 230710		✓
EM2312858-096	13-Jul-2023 14:40	0939_MW4079_230710		✓
EM2312858-097	11-Jul-2023 12:57	0939_MW4218_ 230711		✓
EM2312858-098	12-Jul-2023 11:05	0939_MW4219_230712		✓
EM2312858-099	12-Jul-2023 11:29	0939_MW4220_230712		✓
EM2312858-100	12-Jul-2023 08:15	0939_MW4221_230712		✓
EM2312858-101	12-Jul-2023 08:28	0939_MW4222_230712		✓
EM2312858-102	13-Jul-2023 15:21	0939_SW003_ 230707		✓
EM2312858-103	13-Jul-2023 11:36	0939_SW006_ 230713	✓	
EM2312858-104	13-Jul-2023 11:01	0939_SW009_230713	✓	

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2312858-105	13-Jul-2023 10:38	0939_SW010_230713	✓	
EM2312858-106	13-Jul-2023 10:06	0939_SW011_230713	✓	
EM2312858-107	13-Jul-2023 11:16	0939_SW012_230713	✓	
EM2312858-108	07-Jul-2023 15:23	0939_SW017_ 230707		✓
EM2312858-109	07-Jul-2023 15:23	0939_SW018_ 230707		✓
EM2312858-112	07-Jul-2023 15:22	0939_SW028_220707	✓	
EM2312858-113	13-Jul-2023 15:20	0939_SW029_ 230707	✓	
EM2312858-114	13-Jul-2023 11:14	0939_SW032_230713	✓	
EM2312858-115	11-Jul-2023 09:52	0939_SW050_230711	✓	
EM2312858-116	11-Jul-2023 09:58	0939_SW054_ 230711	✓	
EM2312858-117	13-Jul-2023 10:37	0939_SW058_230713	✓	
EM2312858-118	13-Jul-2023 10:54	0939_SW059_230713	✓	
EM2312858-119	13-Jul-2023 10:15	0939_SW062_230713	✓	
EM2312858-120	13-Jul-2023 10:06	0939_SW078_230713	✓	
EM2312858-121	10-Jul-2023 10:26	0939_QC102_230710		✓
EM2312858-122	10-Jul-2023 10:27	0939_QC202_230710 P...	✓	
EM2312858-123	10-Jul-2023 12:38	0939_QC103_230710		✓
EM2312858-124	10-Jul-2023 12:39	0939_QC203_230710 P...	✓	
EM2312858-125	10-Jul-2023 14:25	0939_QC104_230710		✓
EM2312858-126	10-Jul-2023 14:26	0939_QC204_230710 P...	✓	
EM2312858-127	10-Jul-2023 15:53	0939_QC401_230707		✓
EM2312858-128	10-Jul-2023 15:54	0939_QC402_230710		✓
EM2312858-129	10-Jul-2023 15:54	0939_QC403_230710		✓
EM2312858-130	10-Jul-2023 15:56	0939_QC301_230707		✓
EM2312858-131	10-Jul-2023 15:57	0939_QC302_230710		✓
EM2312858-132	10-Jul-2023 15:58	0939_QC303_230710		✓
EM2312858-133	11-Jul-2023 11:14	0939_QC105_230711		✓
EM2312858-134	11-Jul-2023 11:15	0939_QC205_230711 P...	✓	
EM2312858-135	11-Jul-2023 11:37	0939_QC106_230711		✓
EM2312858-136	11-Jul-2023 11:38	0939_QC206_230711 P...	✓	
EM2312858-137	11-Jul-2023 12:03	0939_QC107_230711		✓
EM2312858-138	11-Jul-2023 12:04	0939_QC207_230711 P...	✓	
EM2312858-139	11-Jul-2023 15:03	0939_QC304_230711		✓
EM2312858-140	11-Jul-2023 15:04	0939_QC404_230711		✓
EM2312858-141	12-Jul-2023 08:29	0939_MW4221_FF_230712		✓
EM2312858-142	12-Jul-2023 08:43	0939_MW4222_FF_230712		✓
EM2312858-143	12-Jul-2023 10:56	0939_QC108_230712		✓
EM2312858-144	12-Jul-2023 10:57	0939_QC208_230712 P...	✓	
EM2312858-145	12-Jul-2023 10:59	0939_QC109_230712		✓
EM2312858-146	12-Jul-2023 11:00	0939_QC209_230712 P...	✓	
EM2312858-147	12-Jul-2023 16:07	0939_QC110_230712		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2312858-148	12-Jul-2023 16:08	0939_QC210_230712 P...	✓	
EM2312858-149	12-Jul-2023 16:08	0939_QC111_230712		✓
EM2312858-150	12-Jul-2023 16:09	0939_QC211_230712 P...	✓	
EM2312858-151	12-Jul-2023 16:12	0939_QC305_230712		✓
EM2312858-152	12-Jul-2023 16:13	0939_QC405_230712		✓
EM2312858-153	13-Jul-2023 08:42	0939_QC306_230713		✓
EM2312858-154	13-Jul-2023 08:43	0939_QC406_230713		✓
EM2312858-155	13-Jul-2023 11:25	0939_QC112_230713	✓	
EM2312858-156	13-Jul-2023 11:26	0939_QC212_230713 P...	✓	
EM2312858-157	13-Jul-2023 11:42	0939_QC113_230713	✓	
EM2312858-158	13-Jul-2023 11:43	0939_QC213_230713 P...	✓	
EM2312858-159	07-Jul-2023 15:24	0939_SW037_230707		✓
EM2312858-160	07-Jul-2023 15:25	0939_QC101_230707		✓
EM2312858-161	07-Jul-2023 15:26	0939_QC201_230707 P...	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

CERTIFICATE OF ANALYSIS

Work Order	: **EM2312858-AE**	Page	: 1 of 53
Amendment	: **3**		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	[redacted]
Contact	: [redacted]	Contact	
Address	:	Address	
Telephone	: ----	Telephone	[redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023 10:15
Order number	: 60612561	Date Analysis Commenced	: 22-Jul-2023
C-O-C number	: 54026	Issue Date	: 28-Jul-2023 11:33
Sampler	: [redacted]		
Site	: 0939_EDN_July		
Quote number	: SY/139/19 V3		
No. of samples received	: 125		
No. of samples analysed	: 125		

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 QSM5.3 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: Poor matrix spike recovery for sample EM2312858-017, 044, 060, 068, 072 due to sample matrix interference.
- Amendment (28/07/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Georgia Cahill on Fri 28/07/2023 10:11 AM, for samples numbers 141, 142 and split reports sample #100, 101. All analysis results are as per the previous report.
- Amendment (27/07/203):This report has been amended following the email from Georgia Cahill Tue 25/07/2023 11:20 AM to split report for sample 100, 101, 141 and 142. All analysis results are as per the previous report.
- Amendment (28/07/2023):This report has been amended following the email from Georgia Cahill Fri 28/07/2023 11:06 AM to split report for sample 141 and 142. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0669_MW2325_230711	0939_MW2112_230710	0939_MW2114_230711	0939_MW2120_230710	0939_MW2126_230710
				Sampling date / time	11-Jul-2023 09:28	10-Jul-2023 08:53	11-Jul-2023 11:36	10-Jul-2023 13:46	10-Jul-2023 12:13
					EM2312858-001	EM2312858-002	EM2312858-003	EM2312858-004	EM2312858-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.06**	**74.9**	**29.7**	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.10**	**74.1**	**36.0**	**0.10**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.85**	**309**	**280**	**0.61**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.06**	**38.8**	**24.2**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**3.09**	**525**	**333**	**0.46**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.13**	**0.56**	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**10.6**	**3.6**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.02**	**23.6**	**11.2**	**0.02**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.14**	**113**	**61.0**	**0.16**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.02**	**28.8**	**8.68**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.07**	**56.1**	**23.0**	**0.03**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.24**	**0.15**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.04	**0.74**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0669_MW2325_230711	0939_MW2112_230710	0939_MW2114_230711	0939_MW2120_230710	0939_MW2126_230710
				Sampling date / time	11-Jul-2023 09:28	10-Jul-2023 08:53	11-Jul-2023 11:36	10-Jul-2023 13:46	10-Jul-2023 12:13
Compound	CAS Number	LOR	Unit		EM2312858-001	EM2312858-002	EM2312858-003	EM2312858-004	EM2312858-005
					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	<0.09	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.09	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<0.04	<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	**2.24**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	**0.18**	<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	**4.41**	**1260**	**812**	**1.49**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**3.94**	**834**	**613**	**1.07**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**4.25**	**1140**	**750**	**1.35**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**88.1**	**84.5**	**107**	**80.4**	**92.2**
13C8-PFOA	----	0.02	%		**95.4**	**95.4**	**93.6**	**96.3**	**96.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2129_230710	0939_MW2130_230711	0939_MW2131_230711	0939_MW2134_230711	0939_MW2135_230711
				Sampling date / time	10-Jul-2023 11:16	11-Jul-2023 11:50	11-Jul-2023 10:48	11-Jul-2023 09:10	11-Jul-2023 08:40
Compound	CAS Number	LOR	Unit		EM2312858-006	EM2312858-007	EM2312858-008	EM2312858-009	EM2312858-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.25**	**4.21**	**0.65**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.92**	**4.51**	**1.27**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**25.2**	**30.9**	**10.7**	**0.07**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.66**	**3.68**	**1.73**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**8.08**	**129**	**192**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	**0.96**	**0.46**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**1.6**	**0.8**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.31**	**3.64**	**2.53**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**2.98**	**16.1**	**7.17**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.36**	**2.67**	**1.30**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**1.45**	**5.99**	**4.73**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.16**	**0.13**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	**0.09**	**0.04**	<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	**0.30**	**2.23**	<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	0939_MW2129_230710	0939_MW2130_230711	0939_MW2131_230711	0939_MW2134_230711	0939_MW2135_230711
				Sampling date / time	10-Jul-2023 11:16	11-Jul-2023 11:50	11-Jul-2023 10:48	11-Jul-2023 09:10	11-Jul-2023 08:40
Compound	CAS Number	LOR	Unit		EM2312858-006	EM2312858-007	EM2312858-008	EM2312858-009	EM2312858-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.18**	**0.52**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	**0.26**	**0.15**	<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		**40.2**	**204**	**226**	**0.07**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**33.3**	**160**	**203**	**0.07**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**38.6**	**194**	**220**	**0.07**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**88.0**	**80.4**	**76.1**	**90.2**	**87.7**
13C8-PFOA	----	0.02	%		**93.5**	**97.2**	**97.2**	**96.7**	**97.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2137_230710	0939_MW2139_230710	0939_MW2145_230710	0939_MW2148_230712	0939_MW2149_230707
				Sampling date / time	10-Jul-2023 08:53	10-Jul-2023 11:39	10-Jul-2023 11:16	12-Jul-2023 11:18	07-Jul-2023 14:58
Compound	CAS Number	LOR	Unit		EM2312858-011	EM2312858-012	EM2312858-013	EM2312858-014	EM2312858-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.97**	<0.02	**0.07**	**75.2**	**7.34**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**2.12**	<0.02	**0.09**	**101**	**9.51**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**14.1**	**0.15**	**0.67**	**620**	**92.6**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.61**	<0.02	**0.04**	**67.2**	**12.5**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**11.1**	<0.01	**0.82**	**755**	**227**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	**0.18**	<0.04
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	**8.1**	**1.0**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.23**	<0.02	**0.02**	**23.8**	**3.30**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.81**	<0.02	**0.15**	**117**	**16.8**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.14**	<0.02	<0.02	**21.2**	**2.99**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.32**	<0.01	**0.03**	**53.3**	**9.43**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.30**	**0.09**
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	**0.31**	**0.36**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.09
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.09

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2137_230710	0939_MW2139_230710	0939_MW2145_230710	0939_MW2148_230712	0939_MW2149_230707
				Sampling date / time	10-Jul-2023 08:53	10-Jul-2023 11:39	10-Jul-2023 11:16	12-Jul-2023 11:18	07-Jul-2023 14:58
Compound	CAS Number	LOR	Unit		EM2312858-011	EM2312858-012	EM2312858-013	EM2312858-014	EM2312858-015
					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	<0.09	<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	**0.06**	**0.17**
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		**31.4**	**0.15**	**1.89**	**1840**	**383**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**25.2**	**0.15**	**1.49**	**1380**	**320**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**28.7**	**0.15**	**1.76**	**1670**	**361**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**83.7**	**113**	**86.5**	**95.9**	**89.7**
13C8-PFOA	----	0.02	%		**92.2**	**101**	**96.8**	**91.2**	**90.6**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2150_230707	0939_MW2157_230711	0939_MW2158_230712	0939_MW2159_230711	0939_MW2162_230710
				Sampling date / time	07-Jul-2023 14:56	11-Jul-2023 11:23	12-Jul-2023 11:19	11-Jul-2023 10:09	10-Jul-2023 12:11
					EM2312858-016	EM2312858-017	EM2312858-018	EM2312858-019	EM2312858-020
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.08**	**0.44**	**53.6**	<0.02	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.18**	**0.60**	**57.5**	<0.02	**0.03**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.71**	**4.30**	**318**	<0.01	**0.29**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.17**	**0.48**	**33.6**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**9.61**	**12.0**	**887**	<0.01	**0.13**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.14**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**7.6**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.05**	**0.18**	**22.4**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.31**	**0.98**	**110**	<0.02	**0.04**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	**0.13**	**19.2**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.08**	**0.31**	**40.4**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.24**	<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 (PFTrDA)	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	<0.09	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	**0.47**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2150_230707	0939_MW2157_230711	0939_MW2158_230712	0939_MW2159_230711	0939_MW2162_230710
				Sampling date / time	07-Jul-2023 14:56	11-Jul-2023 11:23	12-Jul-2023 11:19	11-Jul-2023 10:09	10-Jul-2023 12:11
Compound	CAS Number	LOR	Unit		EM2312858-016	EM2312858-017	EM2312858-018	EM2312858-019	EM2312858-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.09	<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		**13.2**	**19.4**	**1550**	<0.01	**0.52**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**12.3**	**16.3**	**1200**	<0.01	**0.42**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**12.9**	**18.3**	**1460**	<0.01	**0.49**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**83.7**	**115**	**87.6**	**82.9**	**83.5**
13C8-PFOA	----	0.02	%		**97.2**	**96.5**	**91.4**	**95.5**	**95.3**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2166_230710	0939_MW2169_230710	0939_MW2172_230710	0939_MW2173_230710	0939_MW2175_230710
				Sampling date / time	10-Jul-2023 11:47	10-Jul-2023 11:21	10-Jul-2023 10:34	10-Jul-2023 10:39	10-Jul-2023 09:53
					EM2312858-021	EM2312858-022	EM2312858-023	EM2312858-024	EM2312858-025
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.03**	**0.03**	<0.02	**0.05**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**	<0.02	<0.02	**0.08**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.47**	**0.12**	**0.02**	**0.64**
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	**0.13**	<0.01	<0.01	**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	<0.1	<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	**0.06**	<0.02	<0.02	**0.07**
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	0939_MW2166_230710	0939_MW2169_230710	0939_MW2172_230710	0939_MW2173_230710	0939_MW2175_230710
				Sampling date / time	10-Jul-2023 11:47	10-Jul-2023 11:21	10-Jul-2023 10:34	10-Jul-2023 10:39	10-Jul-2023 09:53
Compound	CAS Number	LOR	Unit		EM2312858-021	EM2312858-022	EM2312858-023	EM2312858-024	EM2312858-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<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	**0.74**	**0.15**	**0.02**	**0.92**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.60**	**0.12**	**0.02**	**0.71**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.69**	**0.15**	**0.02**	**0.84**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.8**	**101**	**107**	**116**	**110**
13C8-PFOA	----	0.02	%		**93.7**	**104**	**98.3**	**98.4**	**100**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2176_230710	0939_MW2177_230710	0939_MW2180_230710	0939_MW2182_230710	0939_MW2183_230710
				Sampling date / time	10-Jul-2023 09:52	10-Jul-2023 09:49	10-Jul-2023 09:34	10-Jul-2023 09:30	10-Jul-2023 09:30
					EM2312858-026	EM2312858-027	EM2312858-028	EM2312858-029	EM2312858-030
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.03**	**0.44**	<0.02	**0.22**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**	**1.40**	<0.02	**0.32**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.82**	**35.3**	**0.03**	**2.34**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.07**	**3.82**	<0.02	**0.20**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**1.47**	**35.0**	**0.06**	**4.22**
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		<0.02	**0.02**	**0.81**	<0.02	**0.07**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.14**	**5.68**	<0.02	**0.38**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**0.63**	<0.02	**0.05**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.04**	**5.70**	<0.01	**0.13**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.07**	<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	**0.06**	<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	0939_MW2176_230710	0939_MW2177_230710	0939_MW2180_230710	0939_MW2182_230710	0939_MW2183_230710
				Sampling date / time	10-Jul-2023 09:52	10-Jul-2023 09:49	10-Jul-2023 09:34	10-Jul-2023 09:30	10-Jul-2023 09:30
Compound	CAS Number	LOR	Unit		EM2312858-026	EM2312858-027	EM2312858-028	EM2312858-029	EM2312858-030
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**2.64**	**89.1**	**0.09**	**7.93**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**2.29**	**70.3**	**0.09**	**6.56**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**2.52**	**83.8**	**0.09**	**7.41**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**108**	**99.8**	**108**	**105**
13C8-PFOA	----	0.02	%		**93.1**	**104**	**97.4**	**97.2**	**98.2**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2184_230710	0939_MW2185_230710	0939_MW2188_230707	0939_MW2189_230707	0939_MW2193_230707
				Sampling date / time	10-Jul-2023 09:08	10-Jul-2023 08:57	07-Jul-2023 14:55	07-Jul-2023 14:54	07-Jul-2023 14:57
					EM2312858-031	EM2312858-032	EM2312858-033	EM2312858-034	EM2312858-035
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.38**	**10.2**	**14.7**	**3.67**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.55**	**11.7**	**16.1**	**4.95**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**4.30**	**95.9**	**109**	**30.9**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.36**	**6.44**	**9.76**	**1.47**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.06**	**8.75**	**202**	**300**	**47.9**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.04	**0.04**	**0.09**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**1.0**	**1.8**	**0.7**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.11**	**2.10**	**3.26**	**1.51**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.55**	**19.7**	**26.8**	**7.69**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.09**	**2.36**	**3.69**	**0.83**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.22**	**5.98**	**8.67**	**1.60**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.04	**0.04**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.04	<0.03	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.03	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.03	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.03	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.10	<0.09	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	**0.04**	**0.09**	**0.05**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.10	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.09	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2184_230710	0939_MW2185_230710	0939_MW2188_230707	0939_MW2189_230707	0939_MW2193_230707
				Sampling date / time	10-Jul-2023 09:08	10-Jul-2023 08:57	07-Jul-2023 14:55	07-Jul-2023 14:54	07-Jul-2023 14:57
Compound	CAS Number	LOR	Unit		EM2312858-031	EM2312858-032	EM2312858-033	EM2312858-034	EM2312858-035
					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	<0.10	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.09	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.03	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<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	<0.05	<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		**0.08**	**15.3**	**357**	**494**	**101**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.08**	**13.0**	**298**	**409**	**78.8**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.08**	**14.4**	**339**	**468**	**94.8**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**110**	**108**	**93.8**	**107**
13C8-PFOA	----	0.02	%		**97.6**	**100**	**90.2**	**101**	**104**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2194_230707	0939_MW2197_230707	0939_MW2200_230710	0939_MW2201_230710	0939_MW2202_230711
				Sampling date / time	07-Jul-2023 14:58	13-Jul-2023 14:59	10-Jul-2023 13:58	10-Jul-2023 14:08	10-Jul-2023 13:47
					EM2312858-036	EM2312858-037	EM2312858-038	EM2312858-039	EM2312858-040
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	**20.4**	**5.68**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.04**	**21.9**	**6.47**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.35**	**164**	**44.0**	**0.06**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.02**	**15.0**	**2.08**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.63**	**415**	**42.4**	**0.20**	**0.09**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	**0.20**	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**2.3**	**0.7**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**4.62**	**1.88**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.06**	**35.9**	**8.78**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**5.43**	**1.40**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	**12.8**	**2.84**	<0.01	<0.01
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	<0.04	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	**0.26**	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2194_230707	0939_MW2197_230707	0939_MW2200_230710	0939_MW2201_230710	0939_MW2202_230711
				Sampling date / time	07-Jul-2023 14:58	13-Jul-2023 14:59	10-Jul-2023 13:58	10-Jul-2023 14:08	10-Jul-2023 13:47
Compound	CAS Number	LOR	Unit		EM2312858-036	EM2312858-037	EM2312858-038	EM2312858-039	EM2312858-040
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	**0.17**	<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		**1.15**	**698**	**116**	**0.26**	**0.11**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.98**	**579**	**86.4**	**0.26**	**0.11**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.09**	**661**	**108**	**0.26**	**0.11**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**125**	**99.5**	**120**	**121**
13C8-PFOA	----	0.02	%		**102**	**95.5**	**104**	**101**	**98.9**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2203_230710	0939_MW2209_230711	0939_MW2210_230711	0939_MW2216_230711	0939_MW2218_230711
				Sampling date / time	10-Jul-2023 14:24	11-Jul-2023 11:01	11-Jul-2023 10:47	11-Jul-2023 08:39	11-Jul-2023 09:09
					EM2312858-041	EM2312858-042	EM2312858-043	EM2312858-044	EM2312858-045
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**6.16**	<0.02	**7.51**	<0.02	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**6.90**	<0.02	**5.67**	<0.02	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**61.2**	**0.06**	**35.5**	<0.01	**0.43**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**4.50**	<0.02	**5.13**	<0.02	**0.06**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**308**	**0.64**	**71.1**	<0.01	**1.49**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**1.2**	<0.1	**2.4**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.70**	<0.02	**2.71**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**14.2**	<0.02	**12.4**	<0.02	**0.08**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.95**	<0.02	**1.95**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**4.48**	<0.01	**3.77**	<0.01	**0.03**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.04	<0.02	**0.03**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.04**	<0.02	**0.03**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2203_230710	0939_MW2209_230711	0939_MW2210_230711	0939_MW2216_230711	0939_MW2218_230711
				Sampling date / time	10-Jul-2023 14:24	11-Jul-2023 11:01	11-Jul-2023 10:47	11-Jul-2023 08:39	11-Jul-2023 09:09
Compound	CAS Number	LOR	Unit		EM2312858-041	EM2312858-042	EM2312858-043	EM2312858-044	EM2312858-045
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<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		**410**	**0.70**	**148**	<0.01	**2.16**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**369**	**0.70**	**107**	<0.01	**1.92**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**399**	**0.70**	**137**	<0.01	**2.06**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.9**	**116**	**103**	**118**	**115**
13C8-PFOA	----	0.02	%		**91.9**	**98.8**	**98.8**	**99.8**	**100**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2270_230710	0939_MW2272_230712	0939_MW2275_230710	0939_MW2281_230710	0939_MW2284_230712
				Sampling date / time	10-Jul-2023 13:51	12-Jul-2023 11:20	10-Jul-2023 09:33	10-Jul-2023 09:02	12-Jul-2023 11:20
					EM2312858-046	EM2312858-047	EM2312858-048	EM2312858-049	EM2312858-050
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.10**	**29.6**	<0.02	**0.18**	**2.48**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.09**	**27.6**	**0.04**	**0.21**	**2.85**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.68**	**134**	**1.21**	**2.01**	**15.3**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	**9.55**	**0.03**	**0.17**	**1.02**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.62**	**106**	**0.20**	**3.74**	**14.1**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**4.3**	<0.1	<0.1	**0.6**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.02**	**5.82**	**0.02**	**0.06**	**1.01**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.13**	**45.6**	**0.18**	**0.29**	**5.18**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**7.93**	<0.02	**0.04**	**0.72**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.04**	**13.6**	**0.11**	**0.11**	**1.62**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	**0.04**	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2270_230710	0939_MW2272_230712	0939_MW2275_230710	0939_MW2281_230710	0939_MW2284_230712
				Sampling date / time	10-Jul-2023 13:51	12-Jul-2023 11:20	10-Jul-2023 09:33	10-Jul-2023 09:02	12-Jul-2023 11:20
Compound	CAS Number	LOR	Unit		EM2312858-046	EM2312858-047	EM2312858-048	EM2312858-049	EM2312858-050
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.05**	**0.28**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.72**	**384**	**1.84**	**7.09**	**44.9**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.30**	**240**	**1.41**	**5.75**	**29.4**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.59**	**347**	**1.77**	**6.71**	**41.0**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**113**	**99.3**	**110**	**107**	**111**
13C8-PFOA	----	0.02	%		**100**	**96.1**	**100**	**99.3**	**101**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2285_230710	0939_MW2286_230710	0939_MW2358_230710	0939_MW2394_220710	0939_MW2490_230711
				Sampling date / time	10-Jul-2023 09:34	10-Jul-2023 08:58	10-Jul-2023 12:33	10-Jul-2023 12:32	11-Jul-2023 11:54
					EM2312858-051	EM2312858-052	EM2312858-053	EM2312858-054	EM2312858-055
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**21.4**	<0.02	**39.0**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.03**	**24.4**	<0.02	**38.6**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.05**	**0.28**	**153**	**0.02**	**209**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**7.58**	<0.02	**6.90**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.14**	**0.33**	**124**	**0.07**	**182**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	**0.05**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**2.8**	<0.1	**3.3**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**4.13**	<0.02	**7.93**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.02**	**39.7**	<0.02	**83.9**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**4.98**	<0.02	**5.84**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.01**	**6.33**	<0.01	**10.4**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.09
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	**0.10**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.09
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.09

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2285_230710	0939_MW2286_230710	0939_MW2358_230710	0939_MW2394_220710	0939_MW2490_230711
				Sampling date / time	10-Jul-2023 09:34	10-Jul-2023 08:58	10-Jul-2023 12:33	10-Jul-2023 12:32	11-Jul-2023 11:54
Compound	CAS Number	LOR	Unit		EM2312858-051	EM2312858-052	EM2312858-053	EM2312858-054	EM2312858-055
					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	<0.09	<0.05	<0.09
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.09	<0.05	<0.09
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.04
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<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	<0.05	<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
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		**0.36**	**0.67**	**388**	**0.09**	**587**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.19**	**0.61**	**277**	**0.09**	**391**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.36**	**0.64**	**356**	**0.09**	**541**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**115**	**116**	**98.3**	**111**	**88.2**
13C8-PFOA	----	0.02	%		**105**	**100.0**	**103**	**98.5**	**96.5**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2499_230707	0939_MW2501_230711	0939_MW2528_230711	0939_MW4001_230710	0939_MW4003_230712
				Sampling date / time	07-Jul-2023 14:57	11-Jul-2023 09:32	11-Jul-2023 11:13	10-Jul-2023 14:41	12-Jul-2023 14:56
					EM2312858-056	EM2312858-057	EM2312858-058	EM2312858-059	EM2312858-060
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**10.8**	<0.02	**2.83**	<0.02	**0.30**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**9.21**	<0.02	**1.46**	**0.02**	**0.43**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**86.2**	**0.07**	**8.45**	**0.27**	**3.75**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**23.3**	<0.02	**0.47**	<0.02	**0.28**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1090**	**0.16**	**29.9**	**0.98**	**9.40**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.24**	<0.02	**0.18**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**2.4**	<0.1	**12.9**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**3.52**	**0.03**	**4.54**	**0.03**	**0.09**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**25.0**	**0.03**	**12.3**	**0.04**	**0.44**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**2.74**	<0.02	**0.83**	<0.02	**0.09**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**9.78**	**0.02**	**1.52**	**0.04**	**0.22**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.23**	<0.02	**0.19**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.05**	<0.02	**0.08**	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.78**	<0.02	**0.15**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2499_230707	0939_MW2501_230711	0939_MW2528_230711	0939_MW4001_230710	0939_MW4003_230712
				Sampling date / time	07-Jul-2023 14:57	11-Jul-2023 09:32	11-Jul-2023 11:13	10-Jul-2023 14:41	12-Jul-2023 14:56
Compound	CAS Number	LOR	Unit		EM2312858-056	EM2312858-057	EM2312858-058	EM2312858-059	EM2312858-060
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<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	**0.13**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	**0.12**	<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		**1260**	**0.31**	**76.0**	**1.38**	**15.0**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1180**	**0.23**	**38.4**	**1.25**	**13.2**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1230**	**0.31**	**73.5**	**1.36**	**14.3**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.0**	**95.3**	**116**	**98.7**	**105**
13C8-PFOA	----	0.02	%		**95.4**	**102**	**99.9**	**106**	**104**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4009_230711	0939_MW4013_230712	0939_MW4015_230713	0939_MW4020_230711	0939_MW4021_230711
				Sampling date / time	11-Jul-2023 14:15	12-Jul-2023 14:55	13-Jul-2023 08:37	11-Jul-2023 13:58	11-Jul-2023 13:56
					EM2312858-061	EM2312858-062	EM2312858-063	EM2312858-064	EM2312858-065
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**1.27**	**0.24**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**1.21**	**0.40**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**4.56**	**4.02**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.12**	**0.16**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**1.77**	**5.89**	<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	**0.2**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.53**	**0.04**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**1.56**	**0.37**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.15**	**0.04**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.20**	**0.12**	<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	0939_MW4009_230711	0939_MW4013_230712	0939_MW4015_230713	0939_MW4020_230711	0939_MW4021_230711
				Sampling date / time	11-Jul-2023 14:15	12-Jul-2023 14:55	13-Jul-2023 08:37	11-Jul-2023 13:58	11-Jul-2023 13:56
Compound	CAS Number	LOR	Unit		EM2312858-061	EM2312858-062	EM2312858-063	EM2312858-064	EM2312858-065
					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
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	**11.6**	**11.3**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**6.33**	**9.91**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**10.2**	**10.7**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.7**	**101**	**106**	**100**	**104**
13C8-PFOA	----	0.02	%		**103**	**105**	**97.6**	**102**	**101**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4022_230711	0939_MW4023_230710	0939_MW4024_230710	0939_MW4035_230710	0939_MW4037_230712
				Sampling date / time	11-Jul-2023 14:09	10-Jul-2023 14:46	10-Jul-2023 14:50	10-Jul-2023 14:51	12-Jul-2023 12:57
					EM2312858-066	EM2312858-067	EM2312858-068	EM2312858-069	EM2312858-070
					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	**0.06**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**	**0.04**	**0.08**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.64**	**0.45**	**0.81**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.05**	**0.03**	**0.06**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.60**	**0.35**	**2.32**	<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	**0.09**	**0.07**	**0.12**	<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**	**0.02**	**0.04**	<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	0939_MW4022_230711	0939_MW4023_230710	0939_MW4024_230710	0939_MW4035_230710	0939_MW4037_230712
				Sampling date / time	11-Jul-2023 14:09	10-Jul-2023 14:46	10-Jul-2023 14:50	10-Jul-2023 14:51	12-Jul-2023 12:57
Compound	CAS Number	LOR	Unit		EM2312858-066	EM2312858-067	EM2312858-068	EM2312858-069	EM2312858-070
					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
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	**1.48**	**0.96**	**3.49**	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**1.24**	**0.80**	**3.13**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**1.38**	**0.89**	**3.35**	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**106**	**110**	**111**	**99.8**
13C8-PFOA	----	0.02	%		**105**	**103**	**99.3**	**99.2**	**104**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4041_230712	0939_MW4045_230710	0939_MW4048_230710	0939_MW4052_230712	0939_MW4053_230710
				Sampling date / time	12-Jul-2023 09:02	10-Jul-2023 14:52	10-Jul-2023 14:42	12-Jul-2023 09:11	10-Jul-2023 14:53
					EM2312858-071	EM2312858-072	EM2312858-073	EM2312858-074	EM2312858-075
					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	**0.04**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.03**	<0.02	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.05**	**0.28**	<0.01	**0.34**
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	**0.16**	**0.52**	<0.01	**0.72**
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	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.05**	<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	**0.03**	<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
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	0939_MW4041_230712	0939_MW4045_230710	0939_MW4048_230710	0939_MW4052_230712	0939_MW4053_230710
				Sampling date / time	12-Jul-2023 09:02	10-Jul-2023 14:52	10-Jul-2023 14:42	12-Jul-2023 09:11	10-Jul-2023 14:53
Compound	CAS Number	LOR	Unit		EM2312858-071	EM2312858-072	EM2312858-073	EM2312858-074	EM2312858-075
					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	<0.05	<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	**0.21**	**0.93**	<0.01	**1.16**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.21**	**0.80**	<0.01	**1.06**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.21**	**0.90**	<0.01	**1.12**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**110**	**103**	**109**	**115**	**106**
13C8-PFOA	----	0.02	%		**99.5**	**103**	**102**	**98.9**	**99.8**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4055_230712	0939_MW4057_230710	0939_MW4058_230710	0939_MW4059_230711	0939_MW4060_230711
				Sampling date / time	12-Jul-2023 09:41	10-Jul-2023 14:45	13-Jul-2023 14:39	11-Jul-2023 14:51	11-Jul-2023 14:27
					EM2312858-076	EM2312858-077	EM2312858-078	EM2312858-079	EM2312858-080
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.06**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.03**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.21**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.22**	<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	**0.03**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.03**	<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	**0.06**	<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	0939_MW4055_230712	0939_MW4057_230710	0939_MW4058_230710	0939_MW4059_230711	0939_MW4060_230711
				Sampling date / time	12-Jul-2023 09:41	10-Jul-2023 14:45	13-Jul-2023 14:39	11-Jul-2023 14:51	11-Jul-2023 14:27
Compound	CAS Number	LOR	Unit		EM2312858-076	EM2312858-077	EM2312858-078	EM2312858-079	EM2312858-080
					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
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	**0.64**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.43**	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.61**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**99.4**	**110**	**96.7**	**95.1**
13C8-PFOA	----	0.02	%		**98.9**	**101**	**103**	**99.6**	**101**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4061_230711	0939_MW4064_230712	0939_MW4065_230711	0939_MW4066_230710	0939_MW4068_230710
				Sampling date / time	11-Jul-2023 13:22	12-Jul-2023 10:06	11-Jul-2023 13:21	10-Jul-2023 14:52	10-Jul-2023 14:46
					EM2312858-081	EM2312858-082	EM2312858-083	EM2312858-084	EM2312858-085
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	**0.22**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.21**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.13**	**1.93**
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		<0.01	<0.01	<0.01	**0.05**	**4.69**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.22**
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	<0.01	**0.01**	**0.10**
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	0939_MW4061_230711	0939_MW4064_230712	0939_MW4065_230711	0939_MW4066_230710	0939_MW4068_230710
				Sampling date / time	11-Jul-2023 13:22	12-Jul-2023 10:06	11-Jul-2023 13:21	10-Jul-2023 14:52	10-Jul-2023 14:46
Compound	CAS Number	LOR	Unit		EM2312858-081	EM2312858-082	EM2312858-083	EM2312858-084	EM2312858-085
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.23**	**7.59**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.18**	**6.62**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.23**	**7.24**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**104**	**78.2**	**104**	**101**
13C8-PFOA	----	0.02	%		**100**	**104**	**95.2**	**103**	**98.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4069_230710	0939_MW4070_230710	0939_MW4071_230710	0939_MW4072_230712	0939_MW4073_230710
				Sampling date / time	10-Jul-2023 14:48	10-Jul-2023 14:47	10-Jul-2023 14:48	12-Jul-2023 09:03	10-Jul-2023 14:41
Compound	CAS Number	LOR	Unit		EM2312858-086	EM2312858-087	EM2312858-088	EM2312858-089	EM2312858-090
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.06**	<0.02	<0.02	<0.02	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	<0.02	<0.02	<0.02	**0.03**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.67**	<0.01	<0.01	**0.02**	**0.19**
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		**1.29**	<0.01	**0.02**	**0.01**	**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	<0.1	<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		**0.10**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.06**	<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	0939_MW4069_230710	0939_MW4070_230710	0939_MW4071_230710	0939_MW4072_230712	0939_MW4073_230710
				Sampling date / time	10-Jul-2023 14:48	10-Jul-2023 14:47	10-Jul-2023 14:48	12-Jul-2023 09:03	10-Jul-2023 14:41
Compound	CAS Number	LOR	Unit		EM2312858-086	EM2312858-087	EM2312858-088	EM2312858-089	EM2312858-090
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2.36**	<0.01	**0.02**	**0.03**	**0.38**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.96**	<0.01	**0.02**	**0.03**	**0.26**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2.25**	<0.01	**0.02**	**0.03**	**0.35**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**101**	**101**	**105**	**101**
13C8-PFOA	----	0.02	%		**105**	**104**	**98.7**	**95.8**	**97.4**

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4074_230710	0939_MW4075_230710	0939_MW4077_230711	0939_MW4078_230710	0939_MW4079_230710
				Sampling date / time	10-Jul-2023 14:43	10-Jul-2023 14:51	11-Jul-2023 14:49	10-Jul-2023 14:49	13-Jul-2023 14:40
					EM2312858-091	EM2312858-092	EM2312858-094	EM2312858-095	EM2312858-096
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.98**	<0.02	<0.02	**0.06**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**1.35**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**6.24**	<0.01	<0.01	**0.09**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.08**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.16**	**0.58**	<0.01	<0.01	**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	**0.19**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**1.71**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.24**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.26**	<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	0939_MW4074_230710	0939_MW4075_230710	0939_MW4077_230711	0939_MW4078_230710	0939_MW4079_230710
				Sampling date / time	10-Jul-2023 14:43	10-Jul-2023 14:51	11-Jul-2023 14:49	10-Jul-2023 14:49	13-Jul-2023 14:40
Compound	CAS Number	LOR	Unit		EM2312858-091	EM2312858-092	EM2312858-094	EM2312858-095	EM2312858-096
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.16**	**11.7**	<0.01	<0.01	**0.19**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.16**	**6.82**	<0.01	<0.01	**0.11**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.16**	**10.3**	<0.01	<0.01	**0.19**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.1**	**99.0**	**103**	**104**	**101**
13C8-PFOA	----	0.02	%		**98.2**	**95.1**	**96.5**	**100**	**97.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4218_230711	0939_MW4219_230712	0939_MW4220_230712	0939_SW003_230707	0939_SW017_230707
				Sampling date / time	11-Jul-2023 12:57	12-Jul-2023 11:05	12-Jul-2023 11:29	13-Jul-2023 15:21	07-Jul-2023 15:23
Compound	CAS Number	LOR	Unit		EM2312858-097	EM2312858-098	EM2312858-099	EM2312858-102	EM2312858-108
					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	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.03**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.15**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.17**	<0.01	<0.01	**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	<0.02	<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	0939_MW4218_230711	0939_MW4219_230712	0939_MW4220_230712	0939_SW003_230707	0939_SW017_230707
				Sampling date / time	11-Jul-2023 12:57	12-Jul-2023 11:05	12-Jul-2023 11:29	13-Jul-2023 15:21	07-Jul-2023 15:23
Compound	CAS Number	LOR	Unit		EM2312858-097	EM2312858-098	EM2312858-099	EM2312858-102	EM2312858-108
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.39**	<0.01	<0.01	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.32**	<0.01	<0.01	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.36**	<0.01	<0.01	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.4**	**100.0**	**90.8**	**101**	**107**
13C8-PFOA	----	0.02	%		**97.2**	**99.3**	**96.2**	**98.4**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW018_ 230707	0939_QC102_230710	0939_QC103_230710	0939_QC104_230710	0939_QC401_230707
				Sampling date / time	07-Jul-2023 15:23	10-Jul-2023 10:26	10-Jul-2023 12:38	10-Jul-2023 14:25	10-Jul-2023 15:53
Compound	CAS Number	LOR	Unit		EM2312858-109	EM2312858-121	EM2312858-123	EM2312858-125	EM2312858-127
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.03**	**0.04**	**5.53**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**	**0.03**	**6.91**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.81**	**0.29**	**60.1**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.07**	<0.02	**4.78**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	**1.58**	**0.14**	**290**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	**1.2**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.02**	<0.02	**2.90**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.12**	**0.04**	**14.4**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**1.94**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.04**	<0.01	**4.78**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.05**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW018_ 230707	0939_QC102_230710	0939_QC103_230710	0939_QC104_230710	0939_QC401_230707
				Sampling date / time	07-Jul-2023 15:23	10-Jul-2023 10:26	10-Jul-2023 12:38	10-Jul-2023 14:25	10-Jul-2023 15:53
Compound	CAS Number	LOR	Unit		EM2312858-109	EM2312858-121	EM2312858-123	EM2312858-125	EM2312858-127
					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	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.09	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.04	<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		**0.05**	**2.72**	**0.54**	**392**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.05**	**2.39**	**0.43**	**350**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.05**	**2.60**	**0.51**	**381**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**104**	**108**	**83.8**	**95.0**
13C8-PFOA	----	0.02	%		**100**	**98.9**	**103**	**92.9**	**95.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC402_230710	0939_QC403_230710	0939_QC301_230707	0939_QC302_230710	0939_QC303_230710
				Sampling date / time	10-Jul-2023 15:54	10-Jul-2023 15:54	10-Jul-2023 15:56	10-Jul-2023 15:57	10-Jul-2023 15:58
Compound	CAS Number	LOR	Unit		EM2312858-128	EM2312858-129	EM2312858-130	EM2312858-131	EM2312858-132
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC402_230710	0939_QC403_230710	0939_QC301_230707	0939_QC302_230710	0939_QC303_230710
				Sampling date / time	10-Jul-2023 15:54	10-Jul-2023 15:54	10-Jul-2023 15:56	10-Jul-2023 15:57	10-Jul-2023 15:58
Compound	CAS Number	LOR	Unit		EM2312858-128	EM2312858-129	EM2312858-130	EM2312858-131	EM2312858-132
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**99.5**	**101**	**101**	**97.9**
13C8-PFOA	----	0.02	%		**102**	**99.9**	**101**	**99.4**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC105_230711	0939_QC106_230711	0939_QC107_230711	0939_QC304_230711	0939_QC404_230711
				Sampling date / time	11-Jul-2023 11:14	11-Jul-2023 11:37	11-Jul-2023 12:03	11-Jul-2023 15:03	11-Jul-2023 15:04
Compound	CAS Number	LOR	Unit		EM2312858-133	EM2312858-135	EM2312858-137	EM2312858-139	EM2312858-140
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**2.99**	**76.6**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.33**	**74.7**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**7.86**	**315**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.49**	**40.0**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**26.0**	**546**	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.18**	**0.15**	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**8.0**	**13.0**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**7.44**	**24.0**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**12.3**	**118**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.83**	**31.0**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**1.45**	**57.6**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.18**	**0.23**	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.08**	<0.04	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.14**	<0.04	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC105_230711	0939_QC106_230711	0939_QC107_230711	0939_QC304_230711	0939_QC404_230711
				Sampling date / time	11-Jul-2023 11:14	11-Jul-2023 11:37	11-Jul-2023 12:03	11-Jul-2023 15:03	11-Jul-2023 15:04
Compound	CAS Number	LOR	Unit		EM2312858-133	EM2312858-135	EM2312858-137	EM2312858-139	EM2312858-140
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.09	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.13**	**2.48**	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.11**	**0.22**	<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		**69.5**	**1300**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**33.9**	**861**	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**67.1**	**1180**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.2**	**112**	**94.9**	**94.7**	**87.3**
13C8-PFOA	----	0.02	%		**98.6**	**95.1**	**101**	**98.9**	**98.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC108_230712	0939_QC109_230712	0939_QC110_230712	0939_QC111_230712	0939_QC305_230712
				Sampling date / time	12-Jul-2023 10:56	12-Jul-2023 10:59	12-Jul-2023 16:07	12-Jul-2023 16:08	12-Jul-2023 16:12
Compound	CAS Number	LOR	Unit		EM2312858-143	EM2312858-145	EM2312858-147	EM2312858-149	EM2312858-151
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.30**	**2.37**	**24.3**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.41**	**2.51**	**26.7**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**3.60**	**14.4**	**123**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.26**	**1.18**	**11.2**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.01**	**6.63**	**13.2**	**91.0**	<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	**0.3**	**3.9**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.09**	**0.82**	**8.97**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.42**	**4.62**	**43.0**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.09**	**0.73**	**7.56**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.21**	**1.42**	**13.8**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.05**	<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	**0.06**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC108_230712	0939_QC109_230712	0939_QC110_230712	0939_QC111_230712	0939_QC305_230712
				Sampling date / time	12-Jul-2023 10:56	12-Jul-2023 10:59	12-Jul-2023 16:07	12-Jul-2023 16:08	12-Jul-2023 16:12
Compound	CAS Number	LOR	Unit		EM2312858-143	EM2312858-145	EM2312858-147	EM2312858-149	EM2312858-151
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	**12.0**	**41.6**	**354**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	**10.2**	**27.6**	**214**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	**11.3**	**37.9**	**316**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**85.3**	**79.6**	**100**	**96.8**	**86.9**
13C8-PFOA	----	0.02	%		**98.2**	**96.1**	**95.2**	**102**	**98.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC405_230712	0939_QC306_230713	0939_QC406_230713	0939_SW037_230707	0939_QC101_230707
				Sampling date / time	12-Jul-2023 16:13	13-Jul-2023 08:42	13-Jul-2023 08:43	07-Jul-2023 15:24	07-Jul-2023 15:25
Compound	CAS Number	LOR	Unit		EM2312858-152	EM2312858-153	EM2312858-154	EM2312858-159	EM2312858-160
					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	**0.02**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.07**	**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	0939_QC405_230712	0939_QC306_230713	0939_QC406_230713	0939_SW037_230707	0939_QC101_230707
				Sampling date / time	12-Jul-2023 16:13	13-Jul-2023 08:42	13-Jul-2023 08:43	07-Jul-2023 15:24	07-Jul-2023 15:25
Compound	CAS Number	LOR	Unit		EM2312858-152	EM2312858-153	EM2312858-154	EM2312858-159	EM2312858-160
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.09**	**0.01**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.09**	**0.01**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.09**	**0.01**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**82.3**	**81.3**	**84.5**	**85.4**	**79.3**
13C8-PFOA	----	0.02	%		**96.2**	**98.6**	**101**	**102**	**105**

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2312858-AE**	Page	: 1 of 32
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	[redacted]
Contact	[redacted]	Contact	
Address		Address	
Telephone	: ----	Telephone	
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Order number	: 60612561	Date Analysis Commenced	: 22-Jul-2023
C-O-C number	: 54026	Issue Date	: 28-Jul-2023
Sampler	: [redacted]		
Site	: 0939_EDN_July		
Quote number	: SY/139/19 V3		
No. of samples received	: 125		
No. of samples analysed	: 125		

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]	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: 5188702)									
EM2312858-001	0669_MW2325_ 230711	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
EM2312858-010	0939_MW2135_ 230711	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: 5189562)									
EM2312858-012	0939_MW2139_230710	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	<0.01	<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
EM2312858-036	0939_MW2194_ 230707	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.35	0.34	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.63	0.64	0.0	0% - 20%
		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	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.03	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: 5189562) - continued									
EM2312858-036	0939_MW2194_ 230707	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: 5190893)									
EM2312858-039	0939_MW2201_ 230710	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.18	11.0	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
EM2312858-048	0939_MW2275_ 230710	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.21	1.20	1.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.23	15.4	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	0.04	0.04	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5192038)									
EM2312858-057	0939_MW2501_ 230711	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.07	0.08	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		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
EM2312858-062	0939_MW4013_230712	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.56	4.46	2.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.77	1.80	1.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.27	1.24	2.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.21	1.20	0.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.12	0.12	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: 5192039)									
EM2312858-063	0939_MW4015_230713	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.02	4.19	4.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.89	6.03	2.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.24	0.23	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.40	0.41	3.4	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.16	0.18	8.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2312858-069	0939_MW4035_ 230710	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.81	0.85	5.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.32	2.36	1.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	0.09	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.06	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: 5193225)									
EM2312858-070	0939_MW4037_230712	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	<0.01	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
EM2312858-076	0939_MW4055_230712	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: 5193256)									
EM2312858-083	0939_MW4065_230711	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: 5188702)									
EM2312858-001	0669_MW2325_ 230711	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
EM2312858-010	0939_MW2135_ 230711	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

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: 5188702) - continued									
EM2312858-010	0939_MW2135_ 230711	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: 5189562)									
EM2312858-012	0939_MW2139_230710	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
EM2312858-036	0939_MW2194_ 230707	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	0.06	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
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5190893)									
EM2312858-039	0939_MW2201_ 230710	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
EM2312858-048	0939_MW2275_ 230710	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	0.02	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.18	0.18	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: 5190893) - continued									
EM2312858-048	0939_MW2275_ 230710	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: 5192038)									
EM2312858-057	0939_MW2501_ 230711	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	0.04	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
EM2312858-062	0939_MW4013_230712	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.20	0.20	0.0	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.53	0.53	0.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.56	1.55	0.7	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.15	0.15	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	0.2	0.2	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5192039)									
EM2312858-063	0939_MW4015_230713	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.12	0.12	0.0	0% - 50%
		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	0.37	0.35	3.9	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

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: 5192039) - continued									
EM2312858-063	0939_MW4015_230713	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
EM2312858-069	0939_MW4035_ 230710	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	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.11	10.2	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: 5193225)									
EM2312858-070	0939_MW4037_230712	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
EM2312858-076	0939_MW4055_230712	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5193256)									
EM2312858-083	0939_MW4065_230711	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

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: 5193256) - continued									
EM2312858-083	0939_MW4065_230711	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: 5188702)									
EM2312858-001	0669_MW2325_ 230711	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
EM2312858-010	0939_MW2135_ 230711	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: 5189562)									
EM2312858-012	0939_MW2139_230710	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: 5189562) - continued									
EM2312858-012	0939_MW2139_230710	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
EM2312858-036	0939_MW2194_ 230707	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: 5190893)									
EM2312858-039	0939_MW2201_ 230710	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
EM2312858-048	0939_MW2275_ 230710	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: 5190893) - continued									
EM2312858-048	0939_MW2275_ 230710	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: 5192038)									
EM2312858-057	0939_MW2501_ 230711	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
EM2312858-062	0939_MW4013_230712	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: 5192039)									
EM2312858-063	0939_MW4015_230713	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: 5192039) - continued									
EM2312858-063	0939_MW4015_230713	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
EM2312858-069	0939_MW4035_ 230710	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: 5193225)									
EM2312858-070	0939_MW4037_230712	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
EM2312858-076	0939_MW4055_230712	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: 5193225) - continued									
EM2312858-076	0939_MW4055_230712	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: 5193256)									
EM2312858-083	0939_MW4065_230711	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: 5188702)									
EM2312858-001	0669_MW2325_ 230711	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
EM2312858-010	0939_MW2135_ 230711	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5189562)									
EM2312858-012	0939_MW2139_230710	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
EM2312858-036	0939_MW2194_ 230707	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: 5190893)									
EM2312858-039	0939_MW2201_ 230710	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
EM2312858-048	0939_MW2275_ 230710	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: 5192038)									
EM2312858-057	0939_MW2501_ 230711	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: 5192038) - continued									
EM2312858-057	0939_MW2501_ 230711	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EM2312858-062	0939_MW4013_230712	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: 5192039)									
EM2312858-063	0939_MW4015_230713	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
EM2312858-069	0939_MW4035_ 230710	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: 5193225)									
EM2312858-070	0939_MW4037_230712	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
EM2312858-076	0939_MW4055_230712	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: 5193225) - continued									
EM2312858-076	0939_MW4055_230712	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: 5193256)									
EM2312858-083	0939_MW4065_230711	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: 5188702)									
EM2312858-001	0669_MW2325_ 230711	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
EM2312858-010	0939_MW2135_ 230711	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: 5189562)									
EM2312858-012	0939_MW2139_230710	EP231X: Sum of PFAS	----	0.01	µg/L	0.15	0.16	6.5	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.15	0.16	6.5	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.15	0.16	6.5	0% - 50%
EM2312858-036	0939_MW2194_ 230707	EP231X: Sum of PFAS	----	0.01	µg/L	1.15	1.16	0.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.98	0.98	0.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.09	1.09	0.0	0% - 20%
EP231P: PFAS Sums (QC Lot: 5190893)									
EM2312858-039	0939_MW2201_ 230710	EP231X: Sum of PFAS	----	0.01	µg/L	0.26	0.23	12.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.26	0.23	12.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.26	0.23	12.2	0% - 20%
EM2312858-048	0939_MW2275_ 230710	EP231X: Sum of PFAS	----	0.01	µg/L	1.84	1.87	1.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.41	1.43	1.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.77	1.80	1.7	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231P: PFAS Sums (QC Lot: 5192038)									
EM2312858-057	0939_MW2501_ 230711	EP231X: Sum of PFAS	----	0.01	µg/L	0.31	0.33	6.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.23	0.24	4.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.31	0.33	6.2	0% - 20%
EM2312858-062	0939_MW4013_230712	EP231X: Sum of PFAS	----	0.01	µg/L	11.6	11.4	1.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.33	6.26	1.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	10.2	10.1	1.1	0% - 20%
EP231P: PFAS Sums (QC Lot: 5192039)									
EM2312858-063	0939_MW4015_230713	EP231X: Sum of PFAS	----	0.01	µg/L	11.3	11.6	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.91	10.2	3.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	10.7	11.0	2.6	0% - 20%
EM2312858-069	0939_MW4035_ 230710	EP231X: Sum of PFAS	----	0.01	µg/L	3.49	3.60	3.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.13	3.21	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.35	3.45	2.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 5193225)									
EM2312858-070	0939_MW4037_230712	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.03	40.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.03	40.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.03	40.0	No Limit
EM2312858-076	0939_MW4055_230712	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: 5193256)									
EM2312858-083	0939_MW4065_230711	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5188702)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	85.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	82.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	76.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	81.6	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	84.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5189562)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	78.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	83.7	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	86.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	89.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	83.4	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: 5190893)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	81.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	78.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192038)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	84.7	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	89.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	87.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	88.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	82.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192039)								
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	88.1	71.0	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192039) - continued								
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	86.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	80.9	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	77.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5193225)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	88.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	90.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 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	91.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	88.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	88.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5193256)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.7	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	91.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	94.5	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	84.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	77.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5188702)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	74.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.2	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	87.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	73.0	71.0	129
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	92.3	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5189562)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	87.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	83.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	84.9	72.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5189562) - continued								
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	81.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	87.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	83.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	85.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5190893)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	100	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	85.9	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	85.5	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	83.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	79.9	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	79.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	89.1	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192038)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	84.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	79.5	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	88.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	87.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	86.9	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	83.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192039)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.3	73.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192039) - continued								
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	74.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	85.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	84.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193225)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	85.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	88.3	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.1	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 (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	83.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	83.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193256)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	89.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	81.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	82.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.7	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	112	71.0	132

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5188702)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	90.4	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	86.9	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	87.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5189562)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	80.3	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	89.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	83.2	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	84.7	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	86.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5190893)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	81.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	85.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	90.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.5	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	80.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	78.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192038)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.7	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	108	68.0	141

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192038) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.5	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.8	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	82.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192039)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.2	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	86.4	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193225)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	83.8	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	99.3	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.9	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	84.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193256)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.1	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	95.9	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 (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193256) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	97.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.5	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	93.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	89.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5188702)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	90.8	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	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	96.6	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	74.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5189562)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	86.8	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	89.9	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	82.4	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	79.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5190893)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	85.9	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	83.7	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	83.7	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	70.9	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192038)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.1	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	94.6	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	105	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	81.4	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192039)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	92.8	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	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	94.9	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	91.3	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193225)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	96.4	63.0	143

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193225) - continued								
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	93.7	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	101	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	84.6	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193256)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	100	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	105	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	0.242 µg/L	87.1	70.0	130
EP231P: PFAS Sums (QCLot: 5188702)								
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: 5189562)								
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: 5190893)								
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: 5192038)								
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: 5192039)								
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: 5193225)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231P: PFAS Sums (QCLot: 5193225) - continued								
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: 5193256)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5188702)							
EM2312858-007	0939_MW2130_ 230711	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	# Not Determined	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5189562)							
EM2312858-017	0939_MW2157_230711	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	92.4	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	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	90.8	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	87.9	53.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5190893)							
EM2312858-044	0939_MW2216_230711	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	80.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	88.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	97.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	85.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	76.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192038)							
EM2312858-060	0939_MW4003_230712	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	88.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	92.3	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	86.8	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	83.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192039)							
EM2312858-068	0939_MW4024_ 230710	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	107	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	85.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	89.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	74.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	99.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	74.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5193225)							
EM2312858-072	0939_MW4045_ 230710	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	86.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	74.6	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	95.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# 42.3	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	78.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5193256)							
EM2312858-099	0939_MW4220_230712	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	97.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	103	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	97.3	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	86.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	75.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5188702)							
EM2312858-007	0939_MW2130_ 230711	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	79.1	73.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5188702) - continued							
EM2312858-007	0939_MW2130_ 230711	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	# Not Determined	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	77.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.9	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	80.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	119	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5189562)							
EM2312858-017	0939_MW2157_230711	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 62.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	95.0	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	78.9	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	105	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	86.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	87.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	87.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	73.7	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	76.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	87.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5190893)							
EM2312858-044	0939_MW2216_230711	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 67.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	86.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	80.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	93.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	88.5	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	78.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	82.1	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	79.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	78.7	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.9	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
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192038)							
EM2312858-060	0939_MW4003_230712	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 55.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	80.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	80.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	94.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	90.3	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	87.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	77.1	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	76.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	73.9	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	77.1	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192039)							
EM2312858-068	0939_MW4024_ 230710	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 53.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# 69.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	82.3	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	84.7	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	81.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.9	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	91.1	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	86.5	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.5	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193225)							
EM2312858-072	0939_MW4045_ 230710	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	84.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	77.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	88.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	93.4	71.0	133
		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	84.7	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	85.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	76.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	75.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	78.7	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193256)							
EM2312858-099	0939_MW4220_230712	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	81.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	84.8	72.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193256) - continued							
EM2312858-099	0939_MW4220_230712	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	85.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	92.9	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	93.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	86.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5188702)							
EM2312858-007	0939_MW2130_ 230711	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.2	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	84.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	90.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	84.0	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	92.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5189562)							
EM2312858-017	0939_MW2157_230711	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	80.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	81.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	72.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	88.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	67.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	74.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5190893)							
EM2312858-044	0939_MW2216_230711	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	82.9	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.7	68.0	141

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: 5190893) - continued							
EM2312858-044	0939_MW2216_230711	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	70.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	75.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192038)							
EM2312858-060	0939_MW4003_230712	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.9	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	79.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	88.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	84.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	75.1	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	79.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192039)							
EM2312858-068	0939_MW4024_ 230710	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	84.1	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	75.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	74.9	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	77.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193225)							
EM2312858-072	0939_MW4045_ 230710	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	83.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.2	68.0	141

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: 5193225) - continued							
EM2312858-072	0939_MW4045_ 230710	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	85.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	87.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	74.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193256)							
EM2312858-099	0939_MW4220_230712	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	91.7	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	111	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	96.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	101	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	82.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	77.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5188702)							
EM2312858-007	0939_MW2130_ 230711	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	81.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	81.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	118	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5189562)							
EM2312858-017	0939_MW2157_230711	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	90.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	84.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	90.5	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: 5190893)							
EM2312858-044	0939_MW2216_230711	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	89.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	77.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	87.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 58.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192038)							

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: 5192038) - continued							
EM2312858-060	0939_MW4003_230712	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	92.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	98.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	97.7	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	71.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192039)							
EM2312858-068	0939_MW4024_ 230710	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	92.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	77.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193225)							
EM2312858-072	0939_MW4045_ 230710	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	94.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	96.9	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	99.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	78.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193256)							
EM2312858-099	0939_MW4220_230712	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	96.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	99.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	71.6	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2312858**	Page	: 1 of 15
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Site	: 0939_EDN_July	Issue Date	: 28-Jul-2023
Sampler	: [redacted]	No. of samples received	: 158
Order number	: 60612561	No. of samples analysed	: 129

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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--017	0939_MW2157_230711	**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	EM2312858--060	0939_MW4003_230712	**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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--017	0939_MW2157_230711	**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	EM2312858--060	0939_MW4003_230712	**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	EM2312858--072	0939_MW4045_ 230710	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	42.3 %	65.0-140%	**Recovery less than lower data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2312858--007	0939_MW2130_ 230711	**Perfluorodecane sulfonic acid (PFDS)**	335-77-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--017	0939_MW2157_230711	**Perfluorobutanoic acid (PFBA)**	375-22-4	62.3 %	73.0-129%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--044	0939_MW2216_230711	**Perfluorobutanoic acid (PFBA)**	375-22-4	67.2 %	73.0-129%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--060	0939_MW4003_230712	**Perfluorobutanoic acid (PFBA)**	375-22-4	55.6 %	73.0-129%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--068	0939_MW4024_ 230710	**Perfluorobutanoic acid (PFBA)**	375-22-4	53.9 %	73.0-129%	**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 - Continued							
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--068	0939_MW4024_ 230710	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	69.1 %	72.0-129%	**Recovery less than lower data quality objective**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--017	0939_MW2157_230711	**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	EM2312858--007	0939_MW2130_ 230711	**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	EM2312858--007	0939_MW2130_ 230711	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2312858--044	0939_MW2216_230711	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	58.0 %	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							
HDPE (no PTFE) (EP231X) 0939_MW2149_ 230707, 0939_MW2150_ 230707	**07-Jul-2023**	**22-Jul-2023**	03-Jan-2024	✓	**24-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2188_ 230707, 0939_MW2189_ 230707, 0939_MW2193_ 230707, 0939_MW2194_ 230707, 0939_MW2499_ 230707	**07-Jul-2023**	**24-Jul-2023**	03-Jan-2024	✓	**25-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW017_ 230707, 0939_SW018_ 230707, 0939_SW037_230707, 0939_QC101_230707	**07-Jul-2023**	**25-Jul-2023**	03-Jan-2024	✓	**26-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2112_ 230710, 0939_MW2120_230710, 0939_MW2126_ 230710, 0939_MW2129_ 230710, 0939_MW2137_ 230710, 0939_MW2145_ 230710, 0939_MW2162_ 230710, 0939_MW2166_230710	**10-Jul-2023**	**22-Jul-2023**	06-Jan-2024	✓	**24-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2139_230710, 0939_MW2169_230710, 0939_MW2172_ 230710, 0939_MW2173_ 230710, 0939_MW2175_230710, 0939_MW2176_ 230710, 0939_MW2177_ 230710, 0939_MW2180_ 230710, 0939_MW2182_ 230710, 0939_MW2183_ 230710, 0939_MW2184_ 230710, 0939_MW2185_ 230710, 0939_MW2200_ 230710, 0939_MW2201_ 230710, 0939_MW2202_230711, 0939_MW2203_ 230710, 0939_MW2270_ 230710, 0939_MW2275_ 230710, 0939_MW2281_ 230710, 0939_MW2285_ 230710, 0939_MW2286_ 230710, 0939_MW2358_ 230710, 0939_MW2394_220710	**10-Jul-2023**	**24-Jul-2023**	06-Jan-2024	✓	**25-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4001_ 230710, 0939_MW4023_ 230710, 0939_MW4024_ 230710, 0939_MW4035_ 230710, 0939_MW4045_ 230710, 0939_MW4048_ 230710, 0939_MW4053_ 230710, 0939_MW4057_ 230710, 0939_MW4066_ 230710, 0939_MW4068_ 230710, 0939_MW4069_ 230710, 0939_MW4070_ 230710, 0939_MW4071_ 230710, 0939_MW4073_ 230710, 0939_MW4074_ 230710, 0939_MW4075_ 230710, 0939_MW4078_ 230710, 0939_QC102_230710, 0939_QC103_230710, 0939_QC104_230710, 0939_QC401_230707, 0939_QC402_230710, 0939_QC403_230710, 0939_QC301_230707, 0939_QC302_230710, 0939_QC303_230710	**10-Jul-2023**	**25-Jul-2023**	06-Jan-2024	✓	**26-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0669_MW2325_ 230711, 0939_MW2114_ 230711, 0939_MW2130_ 230711, 0939_MW2131_ 230711, 0939_MW2134_ 230711, 0939_MW2135_ 230711, 0939_MW2159_ 230711	**11-Jul-2023**	**22-Jul-2023**	07-Jan-2024	✓	**24-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2157_230711, 0939_MW2209_230711, 0939_MW2210_ 230711, 0939_MW2216_230711, 0939_MW2218_ 230711, 0939_MW2490_ 230711, 0939_MW2528_230711	**11-Jul-2023**	**24-Jul-2023**	07-Jan-2024	✓	**25-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_ 230711, 0939_MW4009_230711, 0939_MW4020_230711, 0939_MW4021_230711, 0939_MW4022_230711, 0939_MW4059_230711, 0939_MW4060_230711, 0939_MW4061_230711, 0939_MW4065_230711, 0939_MW4077_230711, 0939_MW4218_ 230711, 0939_QC105_230711, 0939_QC106_230711, 0939_QC107_230711, 0939_QC304_230711, 0939_QC404_230711	**11-Jul-2023**	**25-Jul-2023**	07-Jan-2024	✓	**26-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2148_230712, 0939_MW2158_230712	**12-Jul-2023**	**22-Jul-2023**	08-Jan-2024	✓	**24-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2272_230712, 0939_MW2284_230712	**12-Jul-2023**	**24-Jul-2023**	08-Jan-2024	✓	**25-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4003_230712, 0939_MW4013_230712, 0939_MW4037_230712, 0939_MW4041_230712, 0939_MW4052_230712, 0939_MW4055_230712, 0939_MW4064_230712, 0939_MW4072_230712, 0939_MW4219_230712, 0939_MW4220_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_QC108_230712, 0939_QC109_230712, 0939_QC110_230712, 0939_QC111_230712, 0939_QC305_230712, 0939_QC405_230712	**12-Jul-2023**	**25-Jul-2023**	08-Jan-2024	✓	**26-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2197_ 230707	**13-Jul-2023**	**24-Jul-2023**	09-Jan-2024	✓	**25-Jul-2023**	09-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4015_230713, 0939_MW4058_230710, 0939_MW4079_230710, 0939_SW003_ 230707, 0939_QC306_230713, 0939_QC406_230713	**13-Jul-2023**	**25-Jul-2023**	09-Jan-2024	✓	**26-Jul-2023**	09-Jan-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) 0939_MW2149_ 230707, 0939_MW2150_ 230707	**07-Jul-2023**	**22-Jul-2023**	03-Jan-2024	✓	**24-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2188_ 230707, 0939_MW2189_ 230707, 0939_MW2193_ 230707, 0939_MW2194_ 230707, 0939_MW2499_ 230707	**07-Jul-2023**	**24-Jul-2023**	03-Jan-2024	✓	**25-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW017_ 230707, 0939_SW018_ 230707, 0939_SW037_230707, 0939_QC101_230707	**07-Jul-2023**	**25-Jul-2023**	03-Jan-2024	✓	**26-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2112_ 230710, 0939_MW2120_230710, 0939_MW2126_ 230710, 0939_MW2129_ 230710, 0939_MW2137_ 230710, 0939_MW2145_ 230710, 0939_MW2162_ 230710, 0939_MW2166_230710	**10-Jul-2023**	**22-Jul-2023**	06-Jan-2024	✓	**24-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2139_230710, 0939_MW2169_230710, 0939_MW2172_ 230710, 0939_MW2173_ 230710, 0939_MW2175_230710, 0939_MW2176_ 230710, 0939_MW2177_ 230710, 0939_MW2180_ 230710, 0939_MW2182_ 230710, 0939_MW2183_ 230710, 0939_MW2184_ 230710, 0939_MW2185_ 230710, 0939_MW2200_ 230710, 0939_MW2201_ 230710, 0939_MW2202_230711, 0939_MW2203_ 230710, 0939_MW2270_ 230710, 0939_MW2275_ 230710, 0939_MW2281_ 230710, 0939_MW2285_ 230710, 0939_MW2286_ 230710, 0939_MW2358_ 230710, 0939_MW2394_220710	**10-Jul-2023**	**24-Jul-2023**	06-Jan-2024	✓	**25-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4001_ 230710, 0939_MW4023_ 230710, 0939_MW4024_ 230710, 0939_MW4035_ 230710, 0939_MW4045_ 230710, 0939_MW4048_ 230710, 0939_MW4053_ 230710, 0939_MW4057_ 230710, 0939_MW4066_ 230710, 0939_MW4068_ 230710, 0939_MW4069_ 230710, 0939_MW4070_ 230710, 0939_MW4071_ 230710, 0939_MW4073_ 230710, 0939_MW4074_ 230710, 0939_MW4075_ 230710, 0939_MW4078_ 230710, 0939_QC102_230710, 0939_QC103_230710, 0939_QC104_230710, 0939_QC401_230707, 0939_QC402_230710, 0939_QC403_230710, 0939_QC301_230707, 0939_QC302_230710, 0939_QC303_230710	**10-Jul-2023**	**25-Jul-2023**	06-Jan-2024	✓	**26-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids - Continued							
0669_MW2325_ 230711, 0939_MW2114_ 230711, 0939_MW2130_ 230711, 0939_MW2131_ 230711, 0939_MW2134_ 230711, 0939_MW2135_ 230711, 0939_MW2159_ 230711	**11-Jul-2023**	**22-Jul-2023**	07-Jan-2024	✓	**24-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2157_230711, 0939_MW2209_230711, 0939_MW2210_ 230711, 0939_MW2216_230711, 0939_MW2218_ 230711, 0939_MW2490_ 230711, 0939_MW2528_230711	**11-Jul-2023**	**24-Jul-2023**	07-Jan-2024	✓	**25-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_ 230711, 0939_MW4009_230711, 0939_MW4020_230711, 0939_MW4021_230711, 0939_MW4022_230711, 0939_MW4059_230711, 0939_MW4060_230711, 0939_MW4061_230711, 0939_MW4065_230711, 0939_MW4077_230711, 0939_MW4218_ 230711, 0939_QC105_230711, 0939_QC106_230711, 0939_QC107_230711, 0939_QC304_230711, 0939_QC404_230711	**11-Jul-2023**	**25-Jul-2023**	07-Jan-2024	✓	**26-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2148_230712, 0939_MW2158_230712	**12-Jul-2023**	**22-Jul-2023**	08-Jan-2024	✓	**24-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2272_230712, 0939_MW2284_230712	**12-Jul-2023**	**24-Jul-2023**	08-Jan-2024	✓	**25-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4003_230712, 0939_MW4013_230712, 0939_MW4037_230712, 0939_MW4041_230712, 0939_MW4052_230712, 0939_MW4055_230712, 0939_MW4064_230712, 0939_MW4072_230712, 0939_MW4219_230712, 0939_MW4220_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_QC108_230712, 0939_QC109_230712, 0939_QC110_230712, 0939_QC111_230712, 0939_QC305_230712, 0939_QC405_230712	**12-Jul-2023**	**25-Jul-2023**	08-Jan-2024	✓	**26-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2197_ 230707	**13-Jul-2023**	**24-Jul-2023**	09-Jan-2024	✓	**25-Jul-2023**	09-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4015_230713, 0939_MW4058_230710, 0939_MW4079_230710, 0939_SW003_ 230707, 0939_QC306_230713, 0939_QC406_230713	**13-Jul-2023**	**25-Jul-2023**	09-Jan-2024	✓	**26-Jul-2023**	09-Jan-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)								
0939_MW2149_ 230707,	0939_MW2150_ 230707	**07-Jul-2023**	**22-Jul-2023**	03-Jan-2024	✓	**24-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X)								
0939_MW2188_ 230707,	0939_MW2189_ 230707,	**07-Jul-2023**	**24-Jul-2023**	03-Jan-2024	✓	**25-Jul-2023**	03-Jan-2024	✓
0939_MW2193_ 230707,	0939_MW2194_ 230707,							
0939_MW2499_ 230707								
HDPE (no PTFE) (EP231X)								
0939_SW017_ 230707,	0939_SW018_ 230707,	**07-Jul-2023**	**25-Jul-2023**	03-Jan-2024	✓	**26-Jul-2023**	03-Jan-2024	✓
0939_SW037_230707,	0939_QC101_230707							
HDPE (no PTFE) (EP231X)								
0939_MW2112_ 230710,	0939_MW2120_230710,	**10-Jul-2023**	**22-Jul-2023**	06-Jan-2024	✓	**24-Jul-2023**	06-Jan-2024	✓
0939_MW2126_ 230710,	0939_MW2129_ 230710,							
0939_MW2137_ 230710,	0939_MW2145_ 230710,							
0939_MW2162_ 230710,	0939_MW2166_230710							
HDPE (no PTFE) (EP231X)								
0939_MW2139_230710,	0939_MW2169_230710,	**10-Jul-2023**	**24-Jul-2023**	06-Jan-2024	✓	**25-Jul-2023**	06-Jan-2024	✓
0939_MW2172_ 230710,	0939_MW2173_ 230710,							
0939_MW2175_230710,	0939_MW2176_ 230710,							
0939_MW2177_ 230710,	0939_MW2180_ 230710,							
0939_MW2182_ 230710,	0939_MW2183_ 230710,							
0939_MW2184_ 230710,	0939_MW2185_ 230710,							
0939_MW2200_ 230710,	0939_MW2201_ 230710,							
0939_MW2202_230711,	0939_MW2203_ 230710,							
0939_MW2270_ 230710,	0939_MW2275_ 230710,							
0939_MW2281_ 230710,	0939_MW2285_ 230710,							
0939_MW2286_ 230710,	0939_MW2358_ 230710,							
0939_MW2394_220710								
HDPE (no PTFE) (EP231X)								
0939_MW4001_ 230710,	0939_MW4023_ 230710,	**10-Jul-2023**	**25-Jul-2023**	06-Jan-2024	✓	**26-Jul-2023**	06-Jan-2024	✓
0939_MW4024_ 230710,	0939_MW4035_ 230710,							
0939_MW4045_ 230710,	0939_MW4048_ 230710,							
0939_MW4053_ 230710,	0939_MW4057_ 230710,							
0939_MW4066_ 230710,	0939_MW4068_ 230710,							
0939_MW4069_ 230710,	0939_MW4070_ 230710,							
0939_MW4071_ 230710,	0939_MW4073_ 230710,							
0939_MW4074_ 230710,	0939_MW4075_ 230710,							
0939_MW4078_ 230710,	0939_QC102_230710,							
0939_QC103_230710,	0939_QC104_230710,							
0939_QC401_230707,	0939_QC402_230710,							
0939_QC403_230710,	0939_QC301_230707,							
0939_QC302_230710,	0939_QC303_230710							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides - Continued							
0669_MW2325_ 230711, 0939_MW2114_ 230711, 0939_MW2130_ 230711, 0939_MW2131_ 230711, 0939_MW2134_ 230711, 0939_MW2135_ 230711, 0939_MW2159_ 230711	**11-Jul-2023**	**22-Jul-2023**	07-Jan-2024	✓	**24-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2157_230711, 0939_MW2209_230711, 0939_MW2210_ 230711, 0939_MW2216_230711, 0939_MW2218_ 230711, 0939_MW2490_ 230711, 0939_MW2528_230711	**11-Jul-2023**	**24-Jul-2023**	07-Jan-2024	✓	**25-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_ 230711, 0939_MW4009_230711, 0939_MW4020_230711, 0939_MW4021_230711, 0939_MW4022_230711, 0939_MW4059_230711, 0939_MW4060_230711, 0939_MW4061_230711, 0939_MW4065_230711, 0939_MW4077_230711, 0939_MW4218_ 230711, 0939_QC105_230711, 0939_QC106_230711, 0939_QC107_230711, 0939_QC304_230711, 0939_QC404_230711	**11-Jul-2023**	**25-Jul-2023**	07-Jan-2024	✓	**26-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2148_230712, 0939_MW2158_230712	**12-Jul-2023**	**22-Jul-2023**	08-Jan-2024	✓	**24-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2272_230712, 0939_MW2284_230712	**12-Jul-2023**	**24-Jul-2023**	08-Jan-2024	✓	**25-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4003_230712, 0939_MW4013_230712, 0939_MW4037_230712, 0939_MW4041_230712, 0939_MW4052_230712, 0939_MW4055_230712, 0939_MW4064_230712, 0939_MW4072_230712, 0939_MW4219_230712, 0939_MW4220_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_QC108_230712, 0939_QC109_230712, 0939_QC110_230712, 0939_QC111_230712, 0939_QC305_230712, 0939_QC405_230712	**12-Jul-2023**	**25-Jul-2023**	08-Jan-2024	✓	**26-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2197_ 230707	**13-Jul-2023**	**24-Jul-2023**	09-Jan-2024	✓	**25-Jul-2023**	09-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4015_230713, 0939_MW4058_230710, 0939_MW4079_230710, 0939_SW003_ 230707, 0939_QC306_230713, 0939_QC406_230713	**13-Jul-2023**	**25-Jul-2023**	09-Jan-2024	✓	**26-Jul-2023**	09-Jan-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)							
0939_MW2149_ 230707, 0939_MW2150_ 230707	**07-Jul-2023**	**22-Jul-2023**	03-Jan-2024	✓	**24-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X)							
0939_MW2188_ 230707, 0939_MW2189_ 230707, 0939_MW2193_ 230707, 0939_MW2194_ 230707, 0939_MW2499_ 230707	**07-Jul-2023**	**24-Jul-2023**	03-Jan-2024	✓	**25-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X)							
0939_SW017_ 230707, 0939_SW018_ 230707, 0939_SW037_230707, 0939_QC101_230707	**07-Jul-2023**	**25-Jul-2023**	03-Jan-2024	✓	**26-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X)							
0939_MW2112_ 230710, 0939_MW2120_230710, 0939_MW2126_ 230710, 0939_MW2129_ 230710, 0939_MW2137_ 230710, 0939_MW2145_ 230710, 0939_MW2162_ 230710, 0939_MW2166_230710	**10-Jul-2023**	**22-Jul-2023**	06-Jan-2024	✓	**24-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							
0939_MW2139_230710, 0939_MW2169_230710, 0939_MW2172_ 230710, 0939_MW2173_ 230710, 0939_MW2175_230710, 0939_MW2176_ 230710, 0939_MW2177_ 230710, 0939_MW2180_ 230710, 0939_MW2182_ 230710, 0939_MW2183_ 230710, 0939_MW2184_ 230710, 0939_MW2185_ 230710, 0939_MW2200_ 230710, 0939_MW2201_ 230710, 0939_MW2202_230711, 0939_MW2203_ 230710, 0939_MW2270_ 230710, 0939_MW2275_ 230710, 0939_MW2281_ 230710, 0939_MW2285_ 230710, 0939_MW2286_ 230710, 0939_MW2358_ 230710, 0939_MW2394_220710	**10-Jul-2023**	**24-Jul-2023**	06-Jan-2024	✓	**25-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							
0939_MW4001_ 230710, 0939_MW4023_ 230710, 0939_MW4024_ 230710, 0939_MW4035_ 230710, 0939_MW4045_ 230710, 0939_MW4048_ 230710, 0939_MW4053_ 230710, 0939_MW4057_ 230710, 0939_MW4066_ 230710, 0939_MW4068_ 230710, 0939_MW4069_ 230710, 0939_MW4070_ 230710, 0939_MW4071_ 230710, 0939_MW4073_ 230710, 0939_MW4074_ 230710, 0939_MW4075_ 230710, 0939_MW4078_ 230710, 0939_QC102_230710, 0939_QC103_230710, 0939_QC104_230710, 0939_QC401_230707, 0939_QC402_230710, 0939_QC403_230710, 0939_QC301_230707, 0939_QC302_230710, 0939_QC303_230710	**10-Jul-2023**	**25-Jul-2023**	06-Jan-2024	✓	**26-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued							
0669_MW2325_ 230711, 0939_MW2114_ 230711, 0939_MW2130_ 230711, 0939_MW2131_ 230711, 0939_MW2134_ 230711, 0939_MW2135_ 230711, 0939_MW2159_ 230711	**11-Jul-2023**	**22-Jul-2023**	07-Jan-2024	✓	**24-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2157_230711, 0939_MW2209_230711, 0939_MW2210_ 230711, 0939_MW2216_230711, 0939_MW2218_ 230711, 0939_MW2490_ 230711, 0939_MW2528_230711	**11-Jul-2023**	**24-Jul-2023**	07-Jan-2024	✓	**25-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_ 230711, 0939_MW4009_230711, 0939_MW4020_230711, 0939_MW4021_230711, 0939_MW4022_230711, 0939_MW4059_230711, 0939_MW4060_230711, 0939_MW4061_230711, 0939_MW4065_230711, 0939_MW4077_230711, 0939_MW4218_ 230711, 0939_QC105_230711, 0939_QC106_230711, 0939_QC107_230711, 0939_QC304_230711, 0939_QC404_230711	**11-Jul-2023**	**25-Jul-2023**	07-Jan-2024	✓	**26-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2148_230712, 0939_MW2158_230712	**12-Jul-2023**	**22-Jul-2023**	08-Jan-2024	✓	**24-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2272_230712, 0939_MW2284_230712	**12-Jul-2023**	**24-Jul-2023**	08-Jan-2024	✓	**25-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4003_230712, 0939_MW4013_230712, 0939_MW4037_230712, 0939_MW4041_230712, 0939_MW4052_230712, 0939_MW4055_230712, 0939_MW4064_230712, 0939_MW4072_230712, 0939_MW4219_230712, 0939_MW4220_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_QC108_230712, 0939_QC109_230712, 0939_QC110_230712, 0939_QC111_230712, 0939_QC305_230712, 0939_QC405_230712	**12-Jul-2023**	**25-Jul-2023**	08-Jan-2024	✓	**26-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2197_ 230707	**13-Jul-2023**	**24-Jul-2023**	09-Jan-2024	✓	**25-Jul-2023**	09-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4015_230713, 0939_MW4058_230710, 0939_MW4079_230710, 0939_SW003_ 230707, 0939_QC306_230713, 0939_QC406_230713	**13-Jul-2023**	**25-Jul-2023**	09-Jan-2024	✓	**26-Jul-2023**	09-Jan-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) 0939_MW2149_ 230707, 0939_MW2150_ 230707	**07-Jul-2023**	**22-Jul-2023**	03-Jan-2024	✓	**24-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2188_ 230707, 0939_MW2189_ 230707, 0939_MW2193_ 230707, 0939_MW2194_ 230707, 0939_MW2499_ 230707	**07-Jul-2023**	**24-Jul-2023**	03-Jan-2024	✓	**25-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW017_ 230707, 0939_SW018_ 230707, 0939_SW037_230707, 0939_QC101_230707	**07-Jul-2023**	**25-Jul-2023**	03-Jan-2024	✓	**26-Jul-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2112_ 230710, 0939_MW2120_230710, 0939_MW2126_ 230710, 0939_MW2129_ 230710, 0939_MW2137_ 230710, 0939_MW2145_ 230710, 0939_MW2162_ 230710, 0939_MW2166_230710	**10-Jul-2023**	**22-Jul-2023**	06-Jan-2024	✓	**24-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2139_230710, 0939_MW2169_230710, 0939_MW2172_ 230710, 0939_MW2173_ 230710, 0939_MW2175_230710, 0939_MW2176_ 230710, 0939_MW2177_ 230710, 0939_MW2180_ 230710, 0939_MW2182_ 230710, 0939_MW2183_ 230710, 0939_MW2184_ 230710, 0939_MW2185_ 230710, 0939_MW2200_ 230710, 0939_MW2201_ 230710, 0939_MW2202_230711, 0939_MW2203_ 230710, 0939_MW2270_ 230710, 0939_MW2275_ 230710, 0939_MW2281_ 230710, 0939_MW2285_ 230710, 0939_MW2286_ 230710, 0939_MW2358_ 230710, 0939_MW2394_220710	**10-Jul-2023**	**24-Jul-2023**	06-Jan-2024	✓	**25-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4001_ 230710, 0939_MW4023_ 230710, 0939_MW4024_ 230710, 0939_MW4035_ 230710, 0939_MW4045_ 230710, 0939_MW4048_ 230710, 0939_MW4053_ 230710, 0939_MW4057_ 230710, 0939_MW4066_ 230710, 0939_MW4068_ 230710, 0939_MW4069_ 230710, 0939_MW4070_ 230710, 0939_MW4071_ 230710, 0939_MW4073_ 230710, 0939_MW4074_ 230710, 0939_MW4075_ 230710, 0939_MW4078_ 230710, 0939_QC102_230710, 0939_QC103_230710, 0939_QC104_230710, 0939_QC401_230707, 0939_QC402_230710, 0939_QC403_230710, 0939_QC301_230707, 0939_QC302_230710, 0939_QC303_230710	**10-Jul-2023**	**25-Jul-2023**	06-Jan-2024	✓	**26-Jul-2023**	06-Jan-2024	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums - Continued							
0669_MW2325_ 230711, 0939_MW2114_ 230711, 0939_MW2130_ 230711, 0939_MW2131_ 230711, 0939_MW2134_ 230711, 0939_MW2135_ 230711, 0939_MW2159_ 230711	**11-Jul-2023**	**22-Jul-2023**	07-Jan-2024	✓	**24-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2157_230711, 0939_MW2209_230711, 0939_MW2210_ 230711, 0939_MW2216_230711, 0939_MW2218_ 230711, 0939_MW2490_ 230711, 0939_MW2528_230711	**11-Jul-2023**	**24-Jul-2023**	07-Jan-2024	✓	**25-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_ 230711, 0939_MW4009_230711, 0939_MW4020_230711, 0939_MW4021_230711, 0939_MW4022_230711, 0939_MW4059_230711, 0939_MW4060_230711, 0939_MW4061_230711, 0939_MW4065_230711, 0939_MW4077_230711, 0939_MW4218_ 230711, 0939_QC105_230711, 0939_QC106_230711, 0939_QC107_230711, 0939_QC304_230711, 0939_QC404_230711	**11-Jul-2023**	**25-Jul-2023**	07-Jan-2024	✓	**26-Jul-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2148_230712, 0939_MW2158_230712	**12-Jul-2023**	**22-Jul-2023**	08-Jan-2024	✓	**24-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2272_230712, 0939_MW2284_230712	**12-Jul-2023**	**24-Jul-2023**	08-Jan-2024	✓	**25-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4003_230712, 0939_MW4013_230712, 0939_MW4037_230712, 0939_MW4041_230712, 0939_MW4052_230712, 0939_MW4055_230712, 0939_MW4064_230712, 0939_MW4072_230712, 0939_MW4219_230712, 0939_MW4220_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_MW4221_230712, 0939_MW4222_230712, 0939_QC108_230712, 0939_QC109_230712, 0939_QC110_230712, 0939_QC111_230712, 0939_QC305_230712, 0939_QC405_230712	**12-Jul-2023**	**25-Jul-2023**	08-Jan-2024	✓	**26-Jul-2023**	08-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW2197_ 230707	**13-Jul-2023**	**24-Jul-2023**	09-Jan-2024	✓	**25-Jul-2023**	09-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4015_230713, 0939_MW4058_230710, 0939_MW4079_230710, 0939_SW003_ 230707, 0939_QC306_230713, 0939_QC406_230713	**13-Jul-2023**	**25-Jul-2023**	09-Jan-2024	✓	**26-Jul-2023**	09-Jan-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	13	129	**10.08**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	8	129	**6.20**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	8	129	**6.20**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	129	**5.43**	**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.

CERTIFICATE OF ANALYSIS

Work Order	: **EM2312858-AF**	Page	: 1 of 5
Amendment	: **3**		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	: [redacted]
Address		Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023 10:15
Order number	: 60612561	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: 54026	Issue Date	: 28-Jul-2023 11:36
Sampler	: [redacted]		
Site	: 0939_EDN_July		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This 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 QSM5.3 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: Poor matrix spike recovery for sample EM2312858-017, 044, 060, 068, 072 due to sample matrix interference.
- Amendment (28/07/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Georgia Cahill on Fri 28/07/2023 10:11 AM, for samples numbers 141, 142 and split reports sample #100, 101. All analysis results are as per the previous report.
- Amendment (27/07/203):This report has been amended following the email from Georgia Cahill Tue 25/07/2023 11:20 AM to split report for sample 100, 101, 141 and 142. All analysis results are as per the previous report.
- Amendment (28/07/2023):This report has been amended following the email from Georgia Cahill Fri 28/07/2023 11:06 AM to split report for sample 141 and 142. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4221_230712	0939_MW4222_230712	----	----	----
				Sampling date / time	12-Jul-2023 08:29	12-Jul-2023 08:43	----	----	----
Compound	CAS Number	LOR	Unit		EM2312858-141	EM2312858-142	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4221_230712	0939_MW4222_230712	----	----	----
				Sampling date / time	12-Jul-2023 08:29	12-Jul-2023 08:43	----	----	----
Compound	CAS Number	LOR	Unit		EM2312858-141	EM2312858-142	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**111**	----	----	----
13C8-PFOA	----	0.02	%		**104**	**101**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2312858-AF**	Page	: 1 of 4
Amendment	: **3**		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Order number	: 60612561	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: 54026	Issue Date	: 28-Jul-2023
Sampler	: [redacted]		
Site	: 0939_EDN_July		
Quote number	: SY/139/19 V3		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	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%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5193872)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	84.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.9	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	88.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	93.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.4	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5193872)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	83.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	86.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.2	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	92.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	87.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	88.9	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5193872)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.0	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	104	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	94.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	85.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193872)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5193872) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	91.1	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	96.8	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	101	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	80.8	70.0	130
EP231P: PFAS Sums (QCLot: 5193872)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2314213**	Page	: 1 of 11
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	[redacted]
Address		Address	
Telephone	: ----	Telephone	[redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023 10:15
Order number	: 60612561	Date Analysis Commenced	: 09-Aug-2023
C-O-C number	: ----	Issue Date	: 14-Aug-2023 11:57
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
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 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

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Where moisture determination has been performed, results are reported on a dry weight basis.

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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.
- This is a rebatch of EM2312858.
- 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	0939_SW006_230713	0939_SW009_230713	0939_SW010_230713	0939_SW011_230713	0939_SW012_230713
				Sampling date / time	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-001	EM2314213-002	EM2314213-003	EM2314213-004	EM2314213-005
					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	**0.07**	**0.06**	**0.07**	**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		**0.06**	**0.08**	**0.07**	**0.14**	**0.10**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<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	0939_SW006_230713	0939_SW009_230713	0939_SW010_230713	0939_SW011_230713	0939_SW012_230713
				Sampling date / time	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-001	EM2314213-002	EM2314213-003	EM2314213-004	EM2314213-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<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		**0.06**	**0.15**	**0.13**	**0.21**	**0.19**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.06**	**0.15**	**0.13**	**0.21**	**0.19**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.06**	**0.15**	**0.13**	**0.21**	**0.19**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**114**	**115**	**108**	**107**	**116**
13C8-PFOA	----	0.02	%		**97.5**	**97.9**	**96.6**	**99.5**	**102**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW028_230707	0939_SW029_230707	0939_SW032_230713	0939_SW050_230711	0939_SW054_230711
				Sampling date / time	07-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	11-Jul-2023 00:00	11-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-006	EM2314213-007	EM2314213-008	EM2314213-009	EM2314213-010
					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	<0.01	<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	<0.01	<0.01	**0.06**	**0.04**
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	0939_SW028_230707	0939_SW029_230707	0939_SW032_230713	0939_SW050_230711	0939_SW054_230711
				Sampling date / time	07-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	11-Jul-2023 00:00	11-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-006	EM2314213-007	EM2314213-008	EM2314213-009	EM2314213-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.08**	**0.06**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.08**	**0.06**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.08**	**0.06**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**113**	**111**	**114**	**108**	**115**
13C8-PFOA	----	0.02	%		**101**	**99.3**	**97.5**	**99.0**	**96.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_SW058_230713	0939_SW059_230713	0939_SW062_230713	0939_SW078_230713	0939_QC112_230713
				Sampling date / time	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-011	EM2314213-012	EM2314213-013	EM2314213-014	EM2314213-015
					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	**0.03**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.05**	<0.01	**0.05**	**0.35**	<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		**0.08**	**0.03**	**0.05**	**0.44**	<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	**0.05**	<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
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	0939_SW058_230713	0939_SW059_230713	0939_SW062_230713	0939_SW078_230713	0939_QC112_230713
				Sampling date / time	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00	13-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		EM2314213-011	EM2314213-012	EM2314213-013	EM2314213-014	EM2314213-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.13**	**0.03**	**0.10**	**0.93**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.13**	**0.03**	**0.10**	**0.79**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.13**	**0.03**	**0.10**	**0.89**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**113**	**118**	**102**	**96.3**	**109**
13C8-PFOA	----	0.02	%		**99.2**	**99.0**	**98.9**	**97.6**	**98.1**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC113_230713	----	----	----	----
				Sampling date / time	13-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2314213-016	--------	--------	--------	--------
					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		**0.06**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC113_230713	----	----	----	----
				Sampling date / time	13-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2314213-016	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.06**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.06**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.06**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	----	----	----	----
13C8-PFOA	----	0.02	%		**98.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2314213**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	[redacted]
Address	: [redacted]	Address	
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Order number	: 60612561	Date Analysis Commenced	: 09-Aug-2023
C-O-C number	: ----	Issue Date	: 14-Aug-2023
Sampler	: [redacted]		
Site	: ----		
Quote number	: SY/139/19 V3		
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]	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: 5227140)									
EM2314213-013	0939_SW062_230713	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	0.05	0.06	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: 5227140)									
EM2314213-013	0939_SW062_230713	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: 5227140)									
EM2314213-013	0939_SW062_230713	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: 5227140) - continued									
EM2314213-013	0939_SW062_230713	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: 5227140)									
EM2314213-013	0939_SW062_230713	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: 5227140)									
EM2314213-013	0939_SW062_230713	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.11	9.5	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.11	9.5	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.11	9.5	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5227140)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	98.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	89.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	90.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	79.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5227140)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	78.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	75.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	78.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.6	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	92.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.9	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.9	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5227140)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	122	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	119	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	103	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	94.0	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5227140)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5227140) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	89.9	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	92.6	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	92.8	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	74.4	70.0	130
EP231P: PFAS Sums (QCLot: 5227140)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2314213**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Site	: ----	Issue Date	: 14-Aug-2023
Sampler	: [redacted]	No. of samples received	: 16
Order number	: 60612561	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

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	19	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation* ***Date extracted***	*Due for extraction*	*Evaluation*	*Analysis* ***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0939_SW028_230707	**07-Jul-2023**	**10-Aug-2023**	03-Jan-2024	✓	**11-Aug-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW050_230711, 0939_SW054_230711	**11-Jul-2023**	**10-Aug-2023**	07-Jan-2024	✓	**11-Aug-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW006_230713, 0939_SW009_230713, 0939_SW010_230713, 0939_SW011_230713, 0939_SW012_230713, 0939_SW029_230707, 0939_SW032_230713, 0939_SW058_230713, 0939_SW059_230713, 0939_SW062_230713, 0939_SW078_230713, 0939_QC112_230713, 0939_QC113_230713	**13-Jul-2023**	**10-Aug-2023**	09-Jan-2024	✓	**11-Aug-2023**	09-Jan-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) 0939_SW028_230707	**07-Jul-2023**	**10-Aug-2023**	03-Jan-2024	✓	**11-Aug-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW050_230711, 0939_SW054_230711	**11-Jul-2023**	**10-Aug-2023**	07-Jan-2024	✓	**11-Aug-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW006_230713, 0939_SW009_230713, 0939_SW010_230713, 0939_SW011_230713, 0939_SW012_230713, 0939_SW029_230707, 0939_SW032_230713, 0939_SW058_230713, 0939_SW059_230713, 0939_SW062_230713, 0939_SW078_230713, 0939_QC112_230713, 0939_QC113_230713	**13-Jul-2023**	**10-Aug-2023**	09-Jan-2024	✓	**11-Aug-2023**	09-Jan-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0939_SW028_230707	**07-Jul-2023**	**10-Aug-2023**	03-Jan-2024	✓	**11-Aug-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW050_230711, 0939_SW054_230711	**11-Jul-2023**	**10-Aug-2023**	07-Jan-2024	✓	**11-Aug-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW006_230713, 0939_SW009_230713, 0939_SW010_230713, 0939_SW011_230713, 0939_SW012_230713, 0939_SW029_230707, 0939_SW032_230713, 0939_SW058_230713, 0939_SW059_230713, 0939_SW062_230713, 0939_SW078_230713, 0939_QC112_230713, 0939_QC113_230713	**13-Jul-2023**	**10-Aug-2023**	09-Jan-2024	✓	**11-Aug-2023**	09-Jan-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0939_SW028_230707	**07-Jul-2023**	**10-Aug-2023**	03-Jan-2024	✓	**11-Aug-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW050_230711, 0939_SW054_230711	**11-Jul-2023**	**10-Aug-2023**	07-Jan-2024	✓	**11-Aug-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW006_230713, 0939_SW009_230713, 0939_SW010_230713, 0939_SW011_230713, 0939_SW012_230713, 0939_SW029_230707, 0939_SW032_230713, 0939_SW058_230713, 0939_SW059_230713, 0939_SW062_230713, 0939_SW078_230713, 0939_QC112_230713, 0939_QC113_230713	**13-Jul-2023**	**10-Aug-2023**	09-Jan-2024	✓	**11-Aug-2023**	09-Jan-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) 0939_SW028_230707	**07-Jul-2023**	**10-Aug-2023**	03-Jan-2024	✓	**11-Aug-2023**	03-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW050_230711, 0939_SW054_230711	**11-Jul-2023**	**10-Aug-2023**	07-Jan-2024	✓	**11-Aug-2023**	07-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0939_SW006_230713, 0939_SW009_230713, 0939_SW010_230713, 0939_SW011_230713, 0939_SW012_230713, 0939_SW029_230707, 0939_SW032_230713, 0939_SW058_230713, 0939_SW059_230713, 0939_SW062_230713, 0939_SW078_230713, 0939_QC112_230713, 0939_QC113_230713	**13-Jul-2023**	**10-Aug-2023**	09-Jan-2024	✓	**11-Aug-2023**	09-Jan-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	19	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2312835**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	[redacted]
Address	:	Address	
E-mail	:	E-mail	
Telephone	: ----	Telephone	
Facsimile	: ----	Facsimile	
Project	: SA_0939_PFASOMP_23	Page	: 1 of 3
Order number	: 60612561	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: 54913	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: MW4223		
Sampler	: [redacted]		

Dates

Date Samples Received	: 21-Jul-2023 10:15	Issue Date	: 21-Jul-2023
Client Requested Due Date	: 28-Jul-2023	Scheduled Reporting Date	: **28-Jul-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 4.0°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- 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.

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)
EM2312835-001	13-Jul-2023 11:53	0939_MW4223_230714	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

CERTIFICATE OF ANALYSIS

Work Order	: **EM2312835**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023 10:15
Order number	: 60612561	Date Analysis Commenced	: 22-Jul-2023
C-O-C number	: 54913	Issue Date	: 26-Jul-2023 12:28
Sampler	: [redacted]		
Site	: MW4223		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	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 QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4223_230714	----	----	----	----
				Sampling date / time	13-Jul-2023 11:53	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2312835-001	--------	--------	--------	--------	
				Result	----	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	----	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----	

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW4223_230714	----	----	----	----
				Sampling date / time	13-Jul-2023 11:53	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2312835-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**91.9**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.0**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2312835**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Order number	: 60612561	Date Analysis Commenced	: 22-Jul-2023
C-O-C number	: 54913	Issue Date	: 26-Jul-2023
Sampler	: [redacted]		
Site	: MW4223		
Quote number	: SY/139/19 V3		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	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%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5188705)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	85.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	96.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	94.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	98.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.4	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	94.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5188705)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	77.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	97.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	74.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	131	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5188705)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.8	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	100	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	86.8	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.2	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	90.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5188705)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5188705) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	100.0	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	95.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	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	92.2	70.0	130
EP231P: PFAS Sums (QCLot: 5188705)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2312835**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP_23	Date Samples Received	: 21-Jul-2023
Site	: MW4223	Issue Date	: 26-Jul-2023
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612561	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4223_230714	**13-Jul-2023**	**22-Jul-2023**	09-Jan-2024	✓	**24-Jul-2023**	09-Jan-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4223_230714	**13-Jul-2023**	**22-Jul-2023**	09-Jan-2024	✓	**24-Jul-2023**	09-Jan-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_MW4223_230714	**13-Jul-2023**	**22-Jul-2023**	09-Jan-2024	✓	**24-Jul-2023**	09-Jan-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4223_230714	**13-Jul-2023**	**22-Jul-2023**	09-Jan-2024	✓	**24-Jul-2023**	09-Jan-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW4223_230714	**13-Jul-2023**	**22-Jul-2023**	09-Jan-2024	✓	**24-Jul-2023**	09-Jan-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	13	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

FREIGHT

AECOM PROJECT - CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT:	AECOM Australia Pty Ltd	LABORATORY:	ALS	All results to be provided in ESDAT format.	FOR LABORATORY USE ONLY
ADDRESS:	[redacted]	ADDRESS:	[redacted]	email a [redacted]	
PHONE NO:	[redacted]	PHONE NO:			
FAX NO:		FAX NO:			
PROJECT NAME:	SA_0930_PFASOMP_23	PROJECT MANAG	[redacted]		
PROJECT NO/PURCHASE ORDER:	60612561 - 6.1	SAMPLERS:	NW	SIGNED:	

COMMENTS: SPECIAL HANDLING/STORAGE

Please circle
SY/139/19 V3

ANALYSIS REQUIRED

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID			Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS				Hold
1	EDN	EDN	Water	Primary	0939_MW2411	_	231017	17/10/2023	PFAS	NA	2	1				
2	EDN	EDN	Water	Primary	0939_MW4027	_	231027	27/10/2023	PFAS	NA	2	1				
3	EDN	EDN	Water	Primary	0939_MW2116	_	231027	27/10/2023	PFAS	NA	2	1				
4	EDN	EDN	Water	Primary	0939_MW4076	_	231027	27/10/2023	PFAS	NA	2	1				
5	EDN	EDN	Water	QAQC	0939_QC101	_	231027	27/10/2023	PFAS	NA	2	1				
→	EDN	EDN	Water	QAQC	0939_QC201	_	231027	27/10/2023	PFAS	NA	2	Please forward to NMI (COC included)				
6	EDN	EDN	Water	QAQC	0930_QC301	_	231027	27/10/2023	PFAS	NA	2	1				
7	EDN	EDN	Water	QAQC	0939_QC401	_	231027	27/10/2023	PFAS	NA	2					1
						_										
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						_										
						_					TOTAL					

Forwarded to Secondary Lab (NMI - NSW)
Initials BM Date 03/11

Environmental Division
Melbourne
Work Order Reference
EM2319686

Telephone : +61-3-8549 9600

Custody Seal ?	Y N NA	RELINQUISHED BY:	CHECKED:
Samples Cold ?	Y N NA	DATE:	TIME:
Comments:		RECEIVED BY: [redacted]	CHECKED: 2/11
		DATE:	TIME: 1235

CONTAINER TYPE AND PRESERVATIVE CODES

P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar
S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;
Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2319686**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: 60612561	Page	: 1 of 3
Order number	: 60612561 - 6.1	Quote number	: ES2020AECOMAU0021 (SY/139/19 V3_SA_0939)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: NW		

Dates

Date Samples Received	: 02-Nov-2023 12:35	Issue Date	: 03-Nov-2023
Client Requested Due Date	: 10-Nov-2023	Scheduled Reporting Date	: **09-Nov-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 6.0°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 7 / 6

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **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.**
- 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.

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)
EM2319686-001	17-Oct-2023 00:00	0939_MW2411_231017		✓
EM2319686-002	27-Oct-2023 00:00	0939_MW4027_231027		✓
EM2319686-003	27-Oct-2023 00:00	0939_MW2116_231027		✓
EM2319686-004	27-Oct-2023 00:00	0939_MW4076_231027		✓
EM2319686-005	27-Oct-2023 00:00	0939_QC101_231027		✓
EM2319686-006	27-Oct-2023 00:00	0939_QC301_231027		✓
EM2319686-007	27-Oct-2023 00:00	0939_QC401_231027	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ENMRG (ENMRG) — Email
- EDI Format - ESDAT (ESDAT) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
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- EDI Format - ENMRG (ENMRG) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ENMRG (ENMRG) — Email
- EDI Format - ESDAT (ESDAT) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

CERTIFICATE OF ANALYSIS

Work Order	: **EM2319686**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	:
Project	: 60612561	Date Samples Received	: 02-Nov-2023 12:35
Order number	: 60612561 - 6.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023 10:20
Sampler	: NW		
Site	: ----		
Quote number	: SY/139/19 V3_SA_0939		
No. of samples received	: 7		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	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 QSM5.3 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 EM2319567-007 due to sample matrix interference.
- EP231X: Sample EM2319686-003 required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2411_231017	0939_MW4027_231027	0939_MW2116_231027	0939_MW4076_231027	0939_QC101_231027
				Sampling date / time	17-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00
					EM2319686-001	EM2319686-002	EM2319686-003	EM2319686-004	EM2319686-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.15**	<0.02	**534**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.10**	<0.02	**922**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.55**	<0.01	**6010**	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.10**	<0.02	**576**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**14.7**	<0.01	**6230**	**0.02**	**0.02**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.04**	<0.02	**1.43**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**30.4**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.07**	<0.02	**219**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.26**	<0.02	**996**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**181**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.04**	<0.01	**417**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**2.40**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.36	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.36	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.36	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.36	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.90	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.03**	<0.02	**4.45**	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.90	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.90	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2411_231017	0939_MW4027_231027	0939_MW2116_231027	0939_MW4076_231027	0939_QC101_231027
				Sampling date / time	17-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00	27-Oct-2023 00:00
Compound	CAS Number	LOR	Unit		EM2319686-001	EM2319686-002	EM2319686-003	EM2319686-004	EM2319686-005
					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	<0.90	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.90	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.36	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.36	<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	<0.36	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.40**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.36	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.36	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**16.0**	<0.01	**16100**	**0.03**	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**15.2**	<0.01	**12200**	**0.03**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**15.8**	<0.01	**14600**	**0.03**	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**108**	**134**	**124**	**132**
13C8-PFOA	----	0.02	%		**98.4**	**94.1**	**90.0**	**95.3**	**96.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC301_231027	----	----	----	----
				Sampling date / time	27-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2319686-006	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC301_231027	----	----	----	----
				Sampling date / time	27-Oct-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2319686-006	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**136**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order	: **EM2319686**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: 60612561	Date Samples Received	: 02-Nov-2023
Order number	: 60612561 - 6.1	Date Analysis Commenced	: 03-Nov-2023
C-O-C number	: ----	Issue Date	: 08-Nov-2023
Sampler	: NW		
Site	: ----		
Quote number	: SY/139/19 V3_SA_0939		
No. of samples received	: 7		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	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: 5403213)									
EM2319567-005	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	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
EM2319651-009	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5403213)									
EM2319567-005	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5403213) - continued									
EM2319651-009	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<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: 5403213)									
EM2319567-005	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EM2319651-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5403213)									
EM2319567-005	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

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: 5403213) - continued									
EM2319567-005	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EM2319651-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5403213)									
EM2319567-005	Anonymous	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
EM2319651-009	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.05	33.3	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.04	22.2	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.05	33.3	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: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5403213)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	94.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	81.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	87.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	82.5	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: 5403213)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	76.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	86.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.2	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	99.1	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	90.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	80.0	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5403213)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	91.8	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	95.2	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	88.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	84.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5403213)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5403213) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	97.0	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	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	96.3	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	88.2	70.0	130
EP231P: PFAS Sums (QCLot: 5403213)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5403213)							
EM2319567-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	93.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	84.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	89.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	109	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	87.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	94.1	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5403213)							
EM2319567-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# 48.5	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	87.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	85.7	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	88.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	85.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	98.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	84.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	79.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	82.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5403213)							

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: 5403213) - continued							
EM2319567-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.4	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 (EtFOSE)	1691-99-2	0.625 µg/L	85.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	83.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	79.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5403213)							
EM2319567-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	100.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	108	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	73.9	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2319686**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: 60612561	Date Samples Received	: 02-Nov-2023
Site	: ----	Issue Date	: 08-Nov-2023
Sampler	: NW	No. of samples received	: 7
Order number	: 60612561 - 6.1	No. of samples analysed	: 6

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							
EP231B: Perfluoroalkyl Carboxylic Acids	EM2319567--007	Anonymous	**Perfluorobutanoic acid (PFBA)**	375-22-4	48.5 %	73.0-129%	**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)								
0939_MW2411_231017		**17-Oct-2023**	**03-Nov-2023**	14-Apr-2024	✓	**06-Nov-2023**	14-Apr-2024	✓
HDPE (no PTFE) (EP231X)								
0939_MW4027_231027, 0939_MW4076_231027, 0939_QC301_231027	0939_MW2116_231027, 0939_QC101_231027,	**27-Oct-2023**	**03-Nov-2023**	24-Apr-2024	✓	**06-Nov-2023**	24-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0939_MW2411_231017		**17-Oct-2023**	**03-Nov-2023**	14-Apr-2024	✓	**06-Nov-2023**	14-Apr-2024	✓
HDPE (no PTFE) (EP231X)								
0939_MW4027_231027, 0939_MW4076_231027, 0939_QC301_231027	0939_MW2116_231027, 0939_QC101_231027,	**27-Oct-2023**	**03-Nov-2023**	24-Apr-2024	✓	**06-Nov-2023**	24-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0939_MW2411_231017		**17-Oct-2023**	**03-Nov-2023**	14-Apr-2024	✓	**06-Nov-2023**	14-Apr-2024	✓
HDPE (no PTFE) (EP231X)								
0939_MW4027_231027, 0939_MW4076_231027, 0939_QC301_231027	0939_MW2116_231027, 0939_QC101_231027,	**27-Oct-2023**	**03-Nov-2023**	24-Apr-2024	✓	**06-Nov-2023**	24-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) 0939_MW2411_231017	**17-Oct-2023**	**03-Nov-2023**	14-Apr-2024	✓	**06-Nov-2023**	14-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4027_231027, 0939_MW2116_231027, 0939_MW4076_231027, 0939_QC101_231027, 0939_QC301_231027	**27-Oct-2023**	**03-Nov-2023**	24-Apr-2024	✓	**06-Nov-2023**	24-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0939_MW2411_231017	**17-Oct-2023**	**03-Nov-2023**	14-Apr-2024	✓	**06-Nov-2023**	14-Apr-2024	✓
HDPE (no PTFE) (EP231X) 0939_MW4027_231027, 0939_MW2116_231027, 0939_MW4076_231027, 0939_QC101_231027, 0939_QC301_231027	**27-Oct-2023**	**03-Nov-2023**	24-Apr-2024	✓	**06-Nov-2023**	24-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]
Customer:
Address:
Email:
Telephone:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: Client Services
Address: [redacted]
Email:
Telephone:

SAMPLE DETAILS

NMI Job Name: AECO04/230726

Total No. of Samples: 13

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/014622	2-AUG-2023	0939_QC201_230707	WATER EDN 07/07/2023
N23/014623	2-AUG-2023	0939_QC202_230710	WATER EDN 10/07/2023
N23/014624	2-AUG-2023	0939_QC203_230710	WATER EDN 10/07/2023
N23/014625	2-AUG-2023	0939_QC204_230710	WATER EDN 10/07/2023
N23/014626	2-AUG-2023	0939_QC205_230711	WATER EDN 11/07/2023
N23/014627	2-AUG-2023	0939_QC206_230711	WATER EDN 11/07/2023
N23/014628	2-AUG-2023	0939_QC207_230711	WATER EDN 11/07/2023
N23/014629	2-AUG-2023	0939_QC208_230712	WATER EDN 12/07/2023
N23/014630	2-AUG-2023	0939_QC209_230712	WATER EDN 12/07/2023
N23/014631	2-AUG-2023	0939_QC210_230712	WATER EDN 12/07/2023
N23/014632	2-AUG-2023	0939_QC211_230712	WATER EDN 12/07/2023
N23/014633	2-AUG-2023	0939_QC212_230713	WATER EDN 13/07/2023

SAMPLE RECEIVED CONDITION

Date samples received:	26-JUL-2023
Sample received in good order:	Yes
NMI Quotation no. provided:	SA_0939_PFASOMP_23
Client purchase order number:	60612561_6_1
Temperature of samples:	Chilled
Comments:	Only QC201 is marked for PFAS analysis. Please advise if you wish to test th samples or place them on hold.
Mode of Delivery:	

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Alterations to Client requirements requested after commencement of testing may incur charges.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer:

Address:

Email:

Telephone:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: Client Services

Address: [redacted]

Email:

Telephone:

SAMPLE DETAILS

NMI Job Name: **AECO04/230726**

Total No. of Samples: **2**

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N23/014633	15-AUG-2023	0939_QC212_230713	WATER EDN 13/07/2023
N23/014634	15-AUG-2023	0939_QC213_230713	WATER EDN 13/07/2023

SAMPLE RECEIVED CONDITION

Date samples received: 26-JUL-2023

Sample received in good order: Yes

NMI Quotation no. provided: SA_0939_PFASOMP_23

Client purchase order number: 60612561_6_1

Temperature of samples: Suitable Condition

Comments:

Mode of Delivery:

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Alterations to Client requirements requested after commencement of testing may incur charges.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

Australian Government
Department of Industry, Science and Resources
National Measurement Institute
NATA

REPORT OF ANALYSIS

Report No. RN1401651

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO04/230726
	[redacted]	**Quote No.**	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 26-JUL-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/014622	0939_QC201_230707	WATER EDN 07/07/2023
N23/014623	0939_QC202_230710	WATER EDN 10/07/2023
N23/014624	0939_QC203_230710	WATER EDN 10/07/2023
N23/014625	0939_QC204_230710	WATER EDN 10/07/2023

Lab Reg No.		N23/014622	N23/014623	N23/014624	N23/014625	
Date Sampled		07-JUL-2023	10-JUL-2023	10-JUL-2023	10-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	1.7	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	2.6	NR70
PFHxA (307-24-4)	ug/L	<0.01	0.11	0.037	13	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	<0.01	1.7	NR70
PFOA (335-67-1)	ug/L	<0.01	0.028	<0.01	3.9	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	0.024	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	0.037	0.023	5.5	NR70
PFHxS (355-46-4)	ug/L	<0.01	0.79	0.31	59	NR70
PFHpS (375-92-8)	ug/L	<0.01	0.046	<0.01	4.1	NR70
PFOS (1763-23-1)	ug/L	<0.02	1.5	0.11	280	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	<0.01	0.024	0.022	5.3	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/014622	N23/014623	N23/014624	N23/014625	
Date Sampled		07-JUL-2023	10-JUL-2023	10-JUL-2023	10-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	0.025	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	97	95	102	92	NR70
PFPeA (Surrogate Recovery)	%	95	90	95	91	NR70
PFHxA (Surrogate Recovery)	%	93	91	99	68	NR70
PFHpA (Surrogate Recovery)	%	94	89	97	91	NR70
PFOA (Surrogate Recovery)	%	96	95	99	95	NR70
PFNA (Surrogate Recovery)	%	85	92	95	27	NR70
PFDA (Surrogate Recovery)	%	84	80	93	77	NR70
PFUdA (Surrogate Recovery)	%	83	72	91	61	NR70
PFDoA (Surrogate Recovery)	%	72	61	76	53	NR70
PFTeDA (Surrogate Recovery)	%	66	65	71	58	NR70
PFHxDA (Surrogate Recovery)	%	87	72	79	98	NR70
FOUEA (Surrogate Recovery)	%	82	73	86	90	NR70
PFBS (Surrogate Recovery)	%	91	90	91	86	NR70
PFHxS (Surrogate Recovery)	%	85	86	87	39	NR70
PFOS (Surrogate Recovery)	%	89	91	95	76	NR70
PFOSA (Surrogate Recovery)	%	75	82	81	71	NR70
N-MeFOSA (Surrogate Recovery)	%	43	44	48	49	NR70
N-EtFOSA (Surrogate Recovery)	%	53	49	55	54	NR70
N-MeFOSAA (Surrogate Recovery)	%	66	56	80	53	NR70
N-EtFOSAA (Surrogate Recovery)	%	64	56	70	49	NR70
N-MeFOSE (Surrogate Recovery)	%	66	57	67	67	NR70
N-EtFOSE (Surrogate Recovery)	%	66	59	67	68	NR70
4:2 FTS (Surrogate Recovery)	%	95	82	90	83	NR70
6:2 FTS (Surrogate Recovery)	%	85	81	84	85	NR70
8:2 FTS (Surrogate Recovery)	%	72	72	92	64	NR70
8:2 diPAP (Surrogate Recovery)	%	85	80	69	76	NR70
Dates						
Date extracted		31-JUL-2023	31-JUL-2023	31-JUL-2023	31-JUL-2023	
Date analysed		31-JUL-2023	31-JUL-2023	31-JUL-2023	31-JUL-2023	

N23/014622
to
N23/014632

REPORT OF ANALYSIS

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]
Organics - NSW
Accreditation No. 198

15-AUG-2023

REPORT OF ANALYSIS

Report No. RN1401651

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO04/230726
	[redacted]	**Quote No.**	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 26-JUL-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/014626	0939_QC205_230711	WATER EDN 11/07/2023
N23/014627	0939_QC206_230711	WATER EDN 11/07/2023
N23/014628	0939_QC207_230711	WATER EDN 11/07/2023
N23/014629	0939_QC208_230712	WATER EDN 12/07/2023

Lab Reg No.		N23/014626	N23/014627	N23/014628	N23/014629	
Date Sampled		11-JUL-2023	11-JUL-2023	11-JUL-2023	12-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	12	23	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	6.3	23	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	9.9	120	<0.01	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.75	25	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L	1.3	52	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L	0.18	0.14	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	0.085	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	1.4	66	<0.01	<0.01	NR70
PFHxS (355-46-4)	ug/L	8.1	340	0.042	0.022	NR70
PFHpS (375-92-8)	ug/L	0.51	31	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L	24	430	0.12	<0.02	NR70
PFNS (68259-12-1)	ug/L	0.076	0.13	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	2.4	80	<0.01	<0.01	NR70
PFOSA (754-91-6)	ug/L	0.094	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/014626	N23/014627	N23/014628	N23/014629	
Date Sampled		11-JUL-2023	11-JUL-2023	11-JUL-2023	12-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.12	2.1	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	0.098	0.19	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	91	93	94	97	NR70
PFPeA (Surrogate Recovery)	%	123	101	91	92	NR70
PFHxA (Surrogate Recovery)	%	62	45	91	91	NR70
PFHpA (Surrogate Recovery)	%	85	72	91	89	NR70
PFOA (Surrogate Recovery)	%	90	72	95	93	NR70
PFNA (Surrogate Recovery)	%	64	23	83	89	NR70
PFDA (Surrogate Recovery)	%	77	70	78	85	NR70
PFUdA (Surrogate Recovery)	%	68	57	75	81	NR70
PFDoA (Surrogate Recovery)	%	56	55	56	74	NR70
PFTeDA (Surrogate Recovery)	%	59	61	56	78	NR70
PFHxDA (Surrogate Recovery)	%	70	162	70	88	NR70
FOUEA (Surrogate Recovery)	%	83	137	71	82	NR70
PFBS (Surrogate Recovery)	%	80	55	90	90	NR70
PFHxS (Surrogate Recovery)	%	66	33	85	83	NR70
PFOS (Surrogate Recovery)	%	82	84	93	89	NR70
PFOSA (Surrogate Recovery)	%	73	64	70	78	NR70
N-MeFOSA (Surrogate Recovery)	%	40	76	39	45	NR70
N-EtFOSA (Surrogate Recovery)	%	45	89	47	56	NR70
N-MeFOSAA (Surrogate Recovery)	%	59	53	56	69	NR70
N-EtFOSAA (Surrogate Recovery)	%	54	51	55	65	NR70
N-MeFOSE (Surrogate Recovery)	%	56	100	64	70	NR70
N-EtFOSE (Surrogate Recovery)	%	57	104	60	72	NR70
4:2 FTS (Surrogate Recovery)	%	76	79	76	71	NR70
6:2 FTS (Surrogate Recovery)	%	73	164	76	75	NR70
8:2 FTS (Surrogate Recovery)	%	68	58	70	73	NR70
8:2 diPAP (Surrogate Recovery)	%	64	75	62	88	NR70
Dates						
Date extracted		31-JUL-2023	31-JUL-2023	31-JUL-2023	31-JUL-2023	
Date analysed		31-JUL-2023	31-JUL-2023	31-JUL-2023	31-JUL-2023	

REPORT OF ANALYSIS

Lab Reg No.		N23/014626	N23/014627	N23/014628	N23/014629	
Date Sampled		11-JUL-2023	11-JUL-2023	11-JUL-2023	12-JUL-2023	
	Units					Method

[redacted]

Organics - NSW
Accreditation No. 198

15-AUG-2023

REPORT OF ANALYSIS

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO04/230726
	[redacted]	**Quote No.**	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 26-JUL-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/014630	0939_QC209_230712	WATER EDN 12/07/2023
N23/014631	0939_QC210_230712	WATER EDN 12/07/2023
N23/014632	0939_QC211_230712	WATER EDN 12/07/2023
N23/014633	0939_QC212_230712	WATER EDN 13/07/2023

Lab Reg No.		N23/014630	N23/014631	N23/014632	N23/014633	
Date Sampled		12-JUL-2023	12-JUL-2023	12-JUL-2023	13-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.080	0.74	7.8	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.081	0.94	10	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.42	3.9	49	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.073	0.67	7.0	<0.01	NR70
PFOA (335-67-1)	ug/L	0.17	1.3	12	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	0.024	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.35	1.9	24	<0.01	NR70
PFHxS (355-46-4)	ug/L	3.8	15	170	<0.01	NR70
PFHpS (375-92-8)	ug/L	0.21	1.3	12	<0.01	NR70
PFOS (1763-23-1)	ug/L	7.7	9.6	85	<0.02	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.27	2.1	29	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/014630	N23/014631	N23/014632	N23/014633	
Date Sampled		12-JUL-2023	12-JUL-2023	12-JUL-2023	13-JUL-2023	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	0.024	0.013	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	92	98	93	84	NR70
PFPeA (Surrogate Recovery)	%	93	99	88	77	NR70
PFHxA (Surrogate Recovery)	%	91	86	55	80	NR70
PFHpA (Surrogate Recovery)	%	88	93	79	76	NR70
PFOA (Surrogate Recovery)	%	92	98	91	80	NR70
PFNA (Surrogate Recovery)	%	81	93	55	84	NR70
PFDA (Surrogate Recovery)	%	85	91	86	81	NR70
PFUdA (Surrogate Recovery)	%	76	92	77	73	NR70
PFDoA (Surrogate Recovery)	%	69	86	75	53	NR70
PFTeDA (Surrogate Recovery)	%	80	82	73	52	NR70
PFHxDA (Surrogate Recovery)	%	95	88	138	51	NR70
FOUEA (Surrogate Recovery)	%	85	81	120	54	NR70
PFBS (Surrogate Recovery)	%	91	90	69	87	NR70
PFHxS (Surrogate Recovery)	%	78	66	39	78	NR70
PFOS (Surrogate Recovery)	%	85	89	87	80	NR70
PFOSA (Surrogate Recovery)	%	74	82	76	55	NR70
N-MeFOSA (Surrogate Recovery)	%	49	65	96	29	NR70
N-EtFOSA (Surrogate Recovery)	%	56	71	104	29	NR70
N-MeFOSAA (Surrogate Recovery)	%	70	82	75	44	NR70
N-EtFOSAA (Surrogate Recovery)	%	62	77	72	40	NR70
N-MeFOSE (Surrogate Recovery)	%	71	74	98	36	NR70
N-EtFOSE (Surrogate Recovery)	%	73	75	102	28	NR70
4:2 FTS (Surrogate Recovery)	%	91	77	77	77	NR70
6:2 FTS (Surrogate Recovery)	%	84	81	92	64	NR70
8:2 FTS (Surrogate Recovery)	%	68	87	75	67	NR70
8:2 diPAP (Surrogate Recovery)	%	85	73	73	64	NR70
Dates						
Date extracted		31-JUL-2023	31-JUL-2023	31-JUL-2023	14-AUG-2023	
Date analysed		31-JUL-2023	31-JUL-2023	31-JUL-2023	14-AUG-2023	

N23/014633
to
N23/014634

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.



Organics - NSW
Accreditation No. 198

15-AUG-2023

REPORT OF ANALYSIS

Client	: AECOM AUSTRALIA PTY LTD	**Job No.**	: AECO04/230726
	[redacted]	**Quote No.**	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 26-JUL-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/014634	0939_QC213_230713	WATER EDN 13/07/2023

Lab Reg No.		N23/014634				
Date Sampled		13-JUL-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	<0.01				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	<0.01				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	<0.01				NR70
PFHxS (355-46-4)	ug/L	<0.01				NR70
PFHpS (375-92-8)	ug/L	<0.01				NR70
PFOS (1763-23-1)	ug/L	0.068				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	<0.01				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/014634				
Date Sampled		13-JUL-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	85				NR70
PFPeA (Surrogate Recovery)	%	82				NR70
PFHxA (Surrogate Recovery)	%	78				NR70
PFHpA (Surrogate Recovery)	%	76				NR70
PFOA (Surrogate Recovery)	%	77				NR70
PFNA (Surrogate Recovery)	%	76				NR70
PFDA (Surrogate Recovery)	%	71				NR70
PFUdA (Surrogate Recovery)	%	57				NR70
PFDoA (Surrogate Recovery)	%	43				NR70
PFTeDA (Surrogate Recovery)	%	36				NR70
PFHxDA (Surrogate Recovery)	%	55				NR70
FOUEA (Surrogate Recovery)	%	52				NR70
PFBS (Surrogate Recovery)	%	82				NR70
PFHxS (Surrogate Recovery)	%	77				NR70
PFOS (Surrogate Recovery)	%	74				NR70
PFOSA (Surrogate Recovery)	%	43				NR70
N-MeFOSA (Surrogate Recovery)	%	25				NR70
N-EtFOSA (Surrogate Recovery)	%	25				NR70
N-MeFOSAA (Surrogate Recovery)	%	34				NR70
N-EtFOSAA (Surrogate Recovery)	%	31				NR70
N-MeFOSE (Surrogate Recovery)	%	31				NR70
N-EtFOSE (Surrogate Recovery)	%	26				NR70
4:2 FTS (Surrogate Recovery)	%	69				NR70
6:2 FTS (Surrogate Recovery)	%	71				NR70
8:2 FTS (Surrogate Recovery)	%	57				NR70
8:2 diPAP (Surrogate Recovery)	%	61				NR70
Dates						
Date extracted		14-AUG-2023				
Date analysed		14-AUG-2023				

[redacted]

Organics - NSW
Accreditation No. 198

15-AUG-2023

REPORT OF ANALYSIS



Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1400578* *RN1401625*
RN1400590

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO04/230726 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	84	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	87	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	91	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	92	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	83	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	85	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	89	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	90	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	77	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	89	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	90	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	108	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	92	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	84	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	93	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	88	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	82	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	87	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	75	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	85	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	86	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	83	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	88	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	90	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	80	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	81	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	92	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	84	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	83	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	63	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	86	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **15/08/2023**

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

NATA

REPORT OF ANALYSIS

Report No. RN1411113

Client	: AECOM AUSTRALIA PTY LTD [redacted]	**Job No.**	: AECO04/231109
		Quote No.	: QT-02232
		Order No.	: 60612561_6_1
		Date Received	: 09-NOV-2023
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP_23		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N23/023452	0939_QC201_230707	WATER EDN 07/07/2023

Lab Reg No.		N23/023452				
Date Sampled		07-JUL-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	0.018				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	<0.01				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	<0.01				NR70
PFHxS (355-46-4)	ug/L	0.088				NR70
PFHpS (375-92-8)	ug/L	<0.01				NR70
PFOS (1763-23-1)	ug/L	0.025				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	<0.01				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.		N23/023452				
Date Sampled		07-JUL-2023				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	104				NR70
PFPeA (Surrogate Recovery)	%	114				NR70
PFHxA (Surrogate Recovery)	%	87				NR70
PFHpA (Surrogate Recovery)	%	98				NR70
PFOA (Surrogate Recovery)	%	100				NR70
PFNA (Surrogate Recovery)	%	104				NR70
PFDA (Surrogate Recovery)	%	102				NR70
PFUdA (Surrogate Recovery)	%	100				NR70
PFDoA (Surrogate Recovery)	%	83				NR70
PFTeDA (Surrogate Recovery)	%	80				NR70
PFHxDA (Surrogate Recovery)	%	91				NR70
FOUEA (Surrogate Recovery)	%	84				NR70
PFBS (Surrogate Recovery)	%	111				NR70
PFHxS (Surrogate Recovery)	%	112				NR70
PFOS (Surrogate Recovery)	%	107				NR70
PFOSA (Surrogate Recovery)	%	77				NR70
N-MeFOSA (Surrogate Recovery)	%	49				NR70
N-EtFOSA (Surrogate Recovery)	%	40				NR70
N-MeFOSAA (Surrogate Recovery)	%	72				NR70
N-EtFOSAA (Surrogate Recovery)	%	71				NR70
N-MeFOSE (Surrogate Recovery)	%	56				NR70
N-EtFOSE (Surrogate Recovery)	%	49				NR70
4:2 FTS (Surrogate Recovery)	%	194				NR70
6:2 FTS (Surrogate Recovery)	%	151				NR70
8:2 FTS (Surrogate Recovery)	%	137				NR70
8:2 diPAP (Surrogate Recovery)	%	80				NR70
Dates						
Date extracted		13-NOV-2023				
Date analysed		13-NOV-2023				

N23/023452
PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.

REPORT OF ANALYSIS

High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]
Organics - NSW
Accreditation No. 198

16-NOV-2023

NATA
WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1411094*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
The testing was undertaken at: 105 Delhi Road, North Ryde, NSW, 2113

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO07/231109 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	110	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	97	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	107	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	107	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	112	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	102	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	116	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	123	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	122	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	115	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	101	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	107	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	119	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	121	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	113	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	105	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	115	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	119	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	117	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	117	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	106	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	106	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	112	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **16/11/2023**

Appendix F

Calibration Certificates

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 16E102011

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. D.O		0 ppm		391223	0 ppm
2. Conductivity		2760 uS		401089	2760 uS
3. pH7		pH 7.00		399304	pH 7.00
4. pH4		pH 4.00		399527	pH 3.99
5. ORP mV		236.6 mV		406331/398193	236.5 mV
7. Temp °C		18.8		Multimeter	18.9

Calibrated by: [redacted]

Calibration date: 5-Jul-23

Next calibration due: 1-Jan-24

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 22G103263

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. D.O		0 ppm		391223	0 ppm
2. Conductivity		2760uS		396172	2760uS
3. pH7		pH 7.00		393774	pH 7.00
4. pH4		pH 4.00		399527	pH 4.00
5. ORP mV		236.42		406331/398193	236.42
6. Temp °C		18.9		multitherm	18.9

Calibrated by: [redacted]

Calibration date: 5/07/2023

Next calibration due: 3/10/2023

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP ~~23~~ Duke	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	Department 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:	Air met
Make and Model:	YSI
Serial Number:	20

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/7/23					
Parameter	Acidity		Conductivity	ORP		Dissolved Oxygen
Units	pH	pH	µS/cm	Mv ~~ppm~~		~~ppm~~
Calibration Standard Concentration:	4.00	7.00	2760	240		10.0
Calibration Reading:	3.98	6.94	2780	239.4		99.3
Calibration Temperature:	15.1	15.3	15.6	15.4		15.3

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.

[redacted]

Fieldwork Staff Signature

14/7/23

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP July 23	**Project Number:**	60612561
Project Location:	RAAF EDN	**Client:**	DoD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	~~[redacted]~~ Airmet
Make and Model:	YSI
Serial Number:	2011

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	10/7/23 – 7:00					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~mV~~ ppm	[illegible]	~~ppm~~
Calibration Standard Concentration:	4	7	2760	240	[illegible]	100
Calibration Reading:	4.02	7.01	2730	240.2	[illegible]	99.1
Calibration Temperature:	14.1	14	14.2	14.0	[illegible]	15.0

ONGOING CHECKS

~~BUMP TEST WITH CALIBRATION SOLUTION~~

Date and Time:	11/7/23 – 7.00					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ~~ppm~~	[illegible]	~~ppm~~
Calibration Standard Concentration:	4	7	2760	240	[illegible]	100
Bump Test Reading:	3.99	6.98	2770	237.1	[illegible]	99.3
Bump Test Temperature:	13.6	13.7	13.7	13.6	[illegible]	14.1

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

11/7/23

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP July 23	**Project Number:**	60612561
Project Location:	RAAF EDN	Client:	DoD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	
Make and Model:	
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	12-7-23 7.00					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	Mv ~~ppm~~	~~ppm~~	~~ppm~~
Calibration Standard Concentration:	4	7	2760	240		100
Calibration Reading:	4.03	7.06	2760	241.1		96.1
Calibration Temperature:	14.1	14.2	14.1	14.0		14.3

~~ONGOING CHECKS~~

~~BUMP TEST WITH CALIBRATION SOLUTION~~

Date and Time:	13-7-23 7.00					
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	Mv ~~ppm~~	~~ppm~~	~~ppm~~
Calibration Standard Concentration:	4	7	2760	240		100
Bump Test Reading:	4.01	7.04	2600	242.1		94.1
Bump Test Temperature:	13.1	13.3	13.1	13.2		13.3

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]
Fieldwork Staff Signature

13/7/23
Date

Distribution: Project Central File

Oil / Water Interface Meter

Instrument Interface Meter (60M)
Serial No. 312446

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	9.47 V
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: [redacted]

Calibration date: 6/07/2023

Next calibration due: 4/09/2023

Appendix D

Analytical Tables

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field	Redox Potential - Corrected	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV		
MW2112	23/03/2020	Q1	8.33			5.346	10.531	Sediment on IP		7.16	1006.0	603.6	3.92	20.4	114.5	318.1	Clear Low turbidity No odour
MW2112	21/07/2020	Q1	8.33		15.877	4.360	11.517	Sediment on IP		8.32	1035.2	621.12	3.51	18.3	-126.8	78.9	Light yellow, low turbidity, no odour
MW2112	14/01/2021	Q1	8.34		15.877	7.740	8.137	Good condition		8.16	1042.8	625.68	1.90	22.7	-79.8	121.5	Clear, Low Turbidity, No odour
MW2112	12/08/2021	Q1	8.34		15.877	4.116	11.761	Good condition		7.90	1056.4	686.66	1.66	20.0	-16.3	187.7	Light Brown, Low Turbidity, No odour
MW2112	01/02/2022	Q1	8.49	5.34 - 8.34	15.877	4.451	11.426	Good condition	6.3	8.35	932.7	606.255	3.54	24.6	-103.5	95.9	Light Brown, Low Turbidity, No odour
MW2112	25/07/2022	Q1	8.49	5.34 - 8.34	15.877	3.074	12.803	Good condition	6.01	7.96	2400.0	1560.0	1.90	17.3	60.7	267.4	Light Brown, No odour, Low Turbidity
MW2112	30/01/2023	Q1	8.49	5.34 - 8.34	15.877	3.853	12.024	Good condition	6.01	7.93	1153	749.45	2.99	22.7	-16.7	184.6	Clear, Low turbidity, No odour, No sheen
MW2112	10/07/2023	Q1	8.49	5.34 - 8.34	15.877	3.304	12.573	Good condition.	6.01	8.10	841	546.65	2.51	17.5	-163.1	43.4	Clear, Low turbidity, No odour.
MW2114	25/03/2020	Q1	8.96			6.107	11.590	Sediment on IP		7.12	13786.0	8271.6	2.40	21.3	146.4	349.1	Yellow/brown Low turbidity No odour
MW2114	21/07/2020	Q1	8.96		17.697	5.368	12.329	Sediment on IP		7.39	14689.0	8813.4	3.82	19.7	-107.9	96.4	Clear, low turbidity, organic odour
MW2114	12/01/2021	Q1	8.86		17.697	5.385	12.312	Good condition		7.31	14805.2	8883.12	2.57	21.9	-72.3	129.8	Light Yellow, Low to Medium Turbidity, No Odour
MW2114	02/08/2021	Q1	8.86		17.697	5.168	12.529	Good condition		7.40	14885.6	9675.64	3.80	18.4	-101.2	104.4	Grey/ Brown, Low Turbidity, Slight Organic Odour
MW2114	01/02/2022	Q1	9.00	5.86 - 8.86	17.697	5.088	12.609	Good condition	6.9	7.42	14371.1	9341.215	3.84	20.8	-43.1	160.1	Light Brown, Low Turbidity, No odour
MW2114	26/07/2022	Q1	9.00	5.86 - 8.86	17.697	4.872	12.825	Good condition	6.90	7.01	10581.0	6877.0	0.92	18.3	-109.2	96.5	Light Brown, No odour, Low Turbidity
MW2114	31/01/2023	Q1	9.00	5.86 - 8.86	17.697	4.416	13.281	Good condition	6.90	7.08	12266	7972.9	5.19	21.1	-98.6	104.3	Brown, Medium turbidity, No odour, No sheen
MW2114	11/07/2023	Q1	9.00	5.86 - 8.86	17.697	4.037	13.660	Good Condition	6.90	6.95	12748	8286.2	1.33	19.3	-84.1	120.6	Clear, Low turbidity, Slight Organic Odour.
MW2116	24/03/2020	Q1	8.26			6.421	10.557	Sediment on IP		7.09	9776.0	5865.6	3.04	20.5	177.5	381.1	Light Brown Low turbidity No odour
MW2116	20/07/2020	Q1	8.26		16.978	4.845	12.133	Sediment on IP		7.47	9410.8	5646.5	2.34	20.0	27.8	231.8	Light brown, low turbidity, no odour
MW2116	12/01/2021	Q1	9.03		16.978	4.745	12.233	Good condition		8.96	-	-	4.68	19.8	-39.6	164.6	Light Yellow, Low Turbidity, No odour. EC field transcription error.
MW2116	02/08/2021	Q1	9.03		16.978	4.529	12.449	Good condition		7.09	5993.4	3895.7	4.38	17.3	213.5	420.2	Light Brown, Medium Turbidity, No odour
MW2116	04/02/2022	Q1	8.40	6.03 - 9.03	16.978	4.390	12.588	Good condition	6.3	7.62	5945.9	3864.8	1.54	20.7	-19.9	183.4	Light Brown, Medium Turbidity, No odour
MW2116	26/07/2022	Q1	8.40	6.03 - 9.03	16.978	4.171	12.807	Good condition	6.30	7.57	5363.0	3485.0	1.29	18.2	-48.5	157.3	Light Brown, No odour, Low Turbidity
MW2116	31/01/2023	Q1	8.40	6.03 - 9.03	16.978	4.210	12.768	Good condition	6.30	7.31	8456	5496	4.81	22.6	54.4	255.8	Light Brown, Medium turbidity, No odour, No sheen
MW2116	27/10/2023	Q1	8.40	6.03 - 9.03	16.978	3.895	13.083	Good Condition.	6.30	7.16	9730	6324.5	8.15	20.4	120.5	324.1	Light Brown, Medium turbidity, No odour
MW2118	17/03/2020	Q1	8.87			6.205	11.124	Good condition		Gauged only							
MW2118	20/07/2020	Q1	8.87		17.329	-	-	Dry		Gauged only							
MW2118	14/01/2021	Q1	8.95		17.329	5.795	11.534	Good condition		Gauged only							
MW2118	13/08/2021	Q1	8.95		17.329	5.610	11.719	Good condition		Gauged only							
MW2118	01/02/2022	Q1	8.79	5.95 - 8.95	17.329	5.554	11.775	Good condition	6.8	Gauged only							
MW2118	25/07/2022	Q1	8.79	5.95 - 8.95	17.329	5.370	11.959	Good condition	6.80	Gauged only							
MW2118	30/01/2023	Q1	8.79	5.95 - 8.95	17.329	4.961	12.368	Good condition	6.80	Gauged only							
MW2118	7/07/2023	Q1	8.79	5.95 - 8.95	17.329	4.811	12.518	Good condition.		Gauged only							
MW2120	23/03/2020	Q1	6.25			4.025	14.155	Sediment on IP		8.21	1315.0	789.0	4.60	20.6	82.7	286.1	Brown Low turbidity No odour
MW2120	20/07/2020	Q1	6.25		18.14	3.580	14.560	Sediment on IP		8.37	1040.3	624.18	3.09	16.8	-5.0	202.2	Light yellow, medium turbidity, no odour
MW2120	11/01/2021	Q1	6.25		18.18	3.845	14.335	Good condition		7.52	1188.9	713.34	2.53	36.5	-30.4	157.1	Light Brown, Low Turbidity, No odour
MW2120	13/08/2021	Q1	6.25		18.18	3.325	14.855	Good condition		9.04	1249.3	812.045	3.62	17.1	-82.0	124.9	Light Brown, Medium Turbidity, No odour
MW2120	31/01/2022	Q1	6.22	3.25 - 6.25	18.18	3.727	14.453	Good condition	4.2	7.65	1165.0	757.25	3.30	25.9	-52.4	145.7	Light Brown, Low Turbidity, No odour
MW2120	26/07/2022	Q1	6.22	3.25 - 6.25	18.180	3.405	14.775	Good condition	4.20	7.96	914.0	594.0	3.65	17.9	-129.8	76.3	Light Brown, No odour, Low Turbidity
MW2120	30/01/2023	Q1	6.22	3.25 - 6.25	18.180	2.928	15.252	Good condition	4.20	7.59	1456	946	6.12	21.7	-8	194.3	Clear, Low turbidity, No odour, No sheen
MW2120	10/07/2023	Q1	6.22	3.25 - 6.25	18.180	2.778	15.402	Good condition.		7.66	1510	981.5	2.37	17.6	-93.7	112.7	Brown, low turbidity, no odour.
MW2126	22/03/2020	Q2	17.53			8.152	11.999	Sediment on IP		6.64	10830.0	6498.0	2.78	19.5	149.4	353.9	Brown Medium turbidity No odour
MW2126	20/07/2020	Q2	17.53		20.151	7.925	12.226	Sediment on IP		7.05	11670.2	7002.12	1.81	17.8	-66.6	139.6	Clear, low turbidity, organic odour
MW2126	11/01/2021	Q2	17.28		20.151	7.775	12.376	Good condition		7.13	11933.0	7159.8	1.47	26.4	-50.7	146.9	Brown, Medium Turbidity, Slight Organic Odour
MW2126	12/08/2021	Q2	17.28		20.151	7.866	12.285	Good condition		7.04	11605.3	7543.445	2.94	19.5	-45.3	159.2	Clear, Low Turbidity, No odour
MW2126	01/02/2022	Q2	17.28	14.28 - 17.28	20.151	7.618	12.533	Good condition	15.5	7.16	11493.8	7470.97	4.07	21.6	62.4	264.8	Clear, Turbid, No odour
MW2126	25/07/2022	Q2	17.28	14.28 - 17.28	20.151	7.473	12.678	Good condition	15.53	7.17	9064.0	5891.0	1.62	18.9	-120.3	84.8	Light Brown, No odour, Low Turbidity
MW2126	30/01/2023	Q2	17.28	14.28 - 17.28	20.151	7.062	13.089	Good condition	15.53	6.77	9648	6271.2	5.90	22.2	64.2	266	Light Brown, Medium turbidity, No odour, No sheen
MW2126	10/07/2023	Q2	17.28	14.28 - 17.28	20.151	6.982	13.169	Good condition.		7.01	10093	6560.45	2.41	19.6	-23.3	181.1	Brown, low turbidity, no odour.
MW2129	23/03/2020	Q1	6.40			5.312	10.568	Good condition		7.49	2742.0	1645.2	4.09	20.0	138.1	342.1	Light Brown Low turbidity Slight Organic Odour
MW2129	20/07/2020	Q1	6.40		15.881	4.922	10.959	Good condition		8.53	3380.7	2028.42	6.22	19.2	-115.0	89.8	Light brown, medium turbidity, no odour
MW2129	11/01/2021	Q1	6.37		15.881	4.898	10.983	Good condition		7.98	3102.0	1861.2	4.42	24.9	-73.7	125.4	Light Brown, Low Turbidity, No odour
MW2129	12/08/2021	Q1	6.37		15.881	4.792	11.089	Good condition		7.84	4192.3	2724.995	3.28	20.2	7.1	210.9	Light Brown, Low Turbidity, No odour
MW2129	31/01/2022	Q1	6.39	3.37 - 6.37	15.881	4.736	11.145	Good condition	4.4	7.87	4419.3	2872.545	1.32	28.4	-27.5	168.1	Black/ Grey, Low Turbidity, No odour
MW2129	25/07/2022	Q1	6.39	3.37 - 6.37	15.881	4.469	11.412	Good condition	4.40	7.88	3293.0	2140.0	2.16	19.1	-35.7	169.2	Light Grey, No odour, Low Turbidity
MW2129	30/01/2023	Q1	6.39	3.37 - 6.37	15.881	4.193	11.688	Good condition	4.40	7.74	3064	1991.6	6.07	22.1	-133.1	68.8	Clear, Low turbidity, No odour, No sheen
MW2129	10/07/2023	Q1	6.39	3.37 - 6.37	15.881	4.022	11.859	Good condition.		7.79	2888	1877.2	1.65	19.2	-65.5	139.3	Clear, low turbidity, no odour.
MW2130	24/03/2020	Q1	8.38			5.775	11.708	Good condition		7.80	2430.0	1458.0	3.25	20.3	117.8	321.5	Light Grey Low turbidity No odour
MW2130	20/07/2020	Q1	8.38		17.483	4.820	12.663	Good condition		7.17	3066.5	1839.9	4.55	17.3	96.1	302.8	Light yellow, low turbidity, no odour
MW2130	12/01/2021	Q1	8.38		17.483	4.875	12.608	Good condition		8.65	2938.6	1763.16	1.82	19.1	-122.5	82.4	Light Brown, Low to Medium turbidity, Slight Organic Odour
MW2130	02/08/2021	Q1	8.38		17.483	4.280	13.203	Good condition		7.98	3491.0	2269.15	2.11	17.3	170.0	376.7	Clear, Low Turbidity, No odour
MW2130	01/02/2022	Q1	8.22	5.38 - 8.38	17.483	4.331	13.152	Good condition	6.4	8.06	3011.7	1957.605	2.74	22.8	-3.5	197.7	Clear, Low Turbidity, No odour
MW2130	26/07/2022	Q1	8.22	5.38 - 8.38	17.483	4.208	13.275	Good condition	6.38	8.00	2583.0	1678.0	1.18	18.7	-33.6	171.7	Clear, No odour, Low Turbidity
MW2130	31/01/2023	Q1	8.22	5.38 - 8.38	17.483	5.428	12.055	Good condition	6.38	8.06	2884	1874.6	2.94	19.3	-21.3	183.4	Clear, Medium turbidity, No odour, No sheen
MW2130	11/07/2023	Q1	8.22	5.38 - 8.38	17.483	4.810	12.673	Good Condition		8.23	2103	1367	0.78	18.7	-97.7	107.6	Clear, Low turbidity, No odour.

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2131	25/03/2020	Q1	8.51			6.405	11.653	Good condition		8.23	1050.0	630.0	4.26	21.0	92.6	295.6	Clear Low turbidity No odour
MW2131	21/07/2020	Q1	8.51		18.058	5.703	12.355	Good condition		7.14	12750.7	7650.42	3.02	19.6	-136.3	68.1	Black, medium turbidity, organic odour
MW2131	12/01/2021	Q1	8.45		18.058	5.700	12.358	Good condition		8.19	1053.2	631.92	4.34	21.1	-47.2	155.7	Light Yellow, Low turbidity, Slight Organic Odour
MW2131	02/08/2021	Q1	8.45		18.058	5.320	12.738	Good condition		8.06	1431.0	930.15	5.60	18.2	4.0	209.8	Clear, Low Turbidity, No odour
MW2131	01/02/2022	Q1	8.55	5.45 - 8.45	18.058	5.381	12.677	Good condition	6.51	8.36	1114.1	724.165	3.68	21.9	-50.2	151.9	Light Brown, Low Turbidity, No odour
MW2131	26/07/2022	Q1	8.55	5.45 - 8.45	18.058	5.027	13.031	Good condition	6.51	8.40	664.0	431.0	3.82	18.3	-62.8	142.9	Clear, No odour, Low Turbidity
MW2131	31/01/2023	Q1	8.55	5.45 - 8.45	18.058	4.678	13.380	Good condition	6.51	7.59	1403	911.95	4.18	19.9	19.7	223.8	Clear, Low turbidity, No odour, No sheen
MW2131	11/07/2023	Q1	8.55	5.45 - 8.45	18.058	4.278	13.780	Good Condition		8.42	662	430.3	3.01	19.9	-75.5	128.6	Clear, Low turbidity, No odour.
MW2134	20/03/2020	Q1	10.89			8.434	11.282	Sediment on IP		7.00	7591.0	4554.6	2.41	21.4	94.1	296.7	Clear Low turbidity No odour
MW2134	21/07/2020	Q1	10.89		19.716	7.488	12.228	Sediment on IP		7.49	9010.1	5406.1	3.55	19.7	-245.5	-41.2	Clear, low turbidity, organic odour
MW2134	12/01/2021	Q1	10.83		19.716	8.905	10.811	Good condition		7.62	7824.1	4694.5	2.64	22.6	-21.0	180.4	Light Brown, Medium turbditiy, No odour
MW2134	02/08/2021	Q1	10.83		19.716	6.826	12.890	Good condition		7.51	10999.0	7149.4	3.19	17.4	5.4	212.0	Light Brown, Low Turbidity, No odour
MW2134	02/02/2022	Q1	10.80	7.83 - 10.83	19.716	7.431	12.285	Good condition	8.89	7.21	11058.5	7188.0	3.95	21.5	-16.1	186.4	Clear, Low Turbidity, No odour
MW2134	26/07/2022	Q1	10.80	7.83 - 10.83	19.716	6.870	12.846	Good condition	8.89	7.11	8155.0	5300.0	0.83	20.5	-190.0	13.5	Light Brown, No odour, Low Turbidity
MW2134	31/01/2023	Q1	10.80	7.83 - 10.83	19.716	6.638	13.078	Good condition	8.89	6.93	9779	6356.35	3.92	22.7	42.4	243.7	Clear, Low turbidity, No odour, No sheen
MW2134	11/07/2023	Q1	10.80	7.83 - 10.83	19.716	5.786	13.930	Good Condition		6.81	10081	6552.65	1.26	20.1	153.1	357	Orange / Brown, Low turbidity, No odour.
MW2135	24/03/2020	Q1	11.80			8.024	12.480	Good condition		7.09	11619.0	6971.4	3.90	20.7	149.2	352.5	Brown Medium turbidity No odour
MW2135	21/07/2020	Q1	11.80		20.504	7.525	12.979	Good condition		7.65	5465.5	3279.3	5.83	19.8	92.6	296.8	Light yellow, low turbidity, no odour
MW2135	12/01/2021	Q1	10.97		20.504	7.575	12.929	Good condition		7.17	11001.1	6600.66	2.80	23.5	39.3	239.8	Brown, Medium turbidity, No odour
MW2135	02/08/2021	Q1	10.97		20.504	7.422	13.082	Good condition		7.18	10726.0	6971.9	3.11	18.8	169.4	374.6	Light Brown, Low Turbidity, No odour
MW2135	02/02/2022	Q1	11.00	7.97 - 10.97	20.504	6.271	14.233	Good condition	9.8	7.20	10366.8	6738.4	2.54	18.9	8.0	213.1	Light Yellow, Low Turbidity, No odour
MW2135	26/07/2022	Q1	11.00	7.97 - 10.97	20.504	7.000	13.504	Good condition	9.80	7.14	7781.0	5057.0	0.94	19.5	-14.5	190.0	Orange / Brown, No odour, Medium Turbidity
MW2135	31/01/2023	Q1	11.00	7.97 - 10.97	20.504	6.464	14.040	Good condition	9.80	7.18	8140	5291	5.05	22.9	95.2	296.3	Light Brown, Medium turbidity, No odour, No sheen
MW2135	11/07/2023	Q1	11.00	7.97 - 10.97	20.504	6.192	14.312	Good Condition		7.01	7781	5057.65	0.71	20	-26.7	177.3	Orange / Brown, Low turbidity, No odour.
MW2137	23/03/2020	Q1	8.01			4.276	11.492	Good condition		6.99	3373.0	2023.8	3.15	22.0	131.2	333.2	Light Brown Low turbidity No odour
MW2137	21/07/2020	Q1	8.01		15.791	3.345	12.446	Good condition		8.35	2405.2	1443.12	2.69	19.7	-104.1	100.2	Clear, low turbidity, organic odour
MW2137	11/01/2021	Q1	8.19		15.791	4.270	11.521	Good condition		6.16	3506.5	2103.9	3.62	25.6	236.8	435.2	Light Yellow, Low Turbidity, No odour
MW2137	12/08/2021	Q1	8.19		15.791	3.042	12.749	Good condition		7.83	2550.4	1657.76	4.38	19.9	4.9	209.1	Light Brown, Low Turbidity, No odour
MW2137	31/01/2022	Q1	8.06	5.19 - 8.19	15.791	3.513	12.278	Good condition	6.01	6.39	2746.9	1785.485	3.05	24.4	211.2	410.8	Light Brown, Low Turbidity, No odour
MW2137	25/07/2022	Q1	8.06	5.19 - 8.19	15.791	3.982	11.809	Good condition	6.30	7.97	730.0	474.0	2.60	18.1	82.6	288.5	Clear, No odour, Low Turbidity
MW2137	30/01/2023	Q1	8.06	5.19 - 8.19	15.791	3.386	12.405	Good condition	6.30	7.64	3644	2368.6	2.37	20.2	87.9	291.7	Clear, Low turbidity, No odour, No sheen
MW2137	10/07/2023	Q1	8.06	5.19 - 8.19	15.791	3.597	12.194	Good condition.		7.66	4110	2671.5	2.49	19.1	9.4	214.3	Clear, Low turbidity, No odour.
MW2139	23/03/2020	Q1	11.35			7.319	11.334	Good condition		6.47	12202.0	7321.2	2.89	19.4	183.6	388.2	Brown Medium turbidity dirt/sediment odour
MW2139	21/07/2020	Q1	11.35		18.653	7.010	11.643	Good condition		8.99	964.6	578.76	5.77	19.6	-39.4	165.0	Clear, low turbidity, no odour
MW2139	11/01/2021	Q1	11.33		18.653	6.940	11.713	Good condition		7.21	13344.8	8006.88	2.99	25.6	24.8	223.2	Light Brown, Low Turbidity, No odour
MW2139	12/08/2021	Q1	11.33		18.653	6.937	11.716	Good condition		7.14	13134.4	8537.36	2.37	19.8	-136.7	67.6	Light Brown, Medium Turbidity, No odour
MW2139	31/01/2022	Q1	11.30	8.33 - 11.33	18.653	6.819	11.834	Good condition	9.35	7.06	13655.0	8875.75	3.62	28.7	-47.3	148.0	Light Brown, Turbid, Organic Odour
MW2139	25/07/2022	Q1	11.30	8.33 - 11.33	18.653	6.649	12.004	Good condition	9.35	7.06	10226.0	6646.0	2.00	20.2	-4.2	199.6	Brown, No odour, Medium Turbidity
MW2139	30/01/2023	Q1	11.30	8.33 - 11.33	18.653	6.302	12.351	Good condition	9.35	7.03	11443	7437.95	5.70	22.5	-20.9	180.6	Light Brown, Medium turbidity, No odour, No sheen
MW2139	10/07/2023	Q1	11.30	8.33 - 11.33	18.653	6.160	12.493	Good condition.		6.91	11605	7543.25	1.41	20.4	26.1	229.7	Brown, low turbidity, no odour.
MW2145	23/03/2020	Q2	27.50			5.225	10.613	Good condition		6.46	7771.0	4662.6	3.57	19.1	170.9	375.8	Clear Low turbidity Organic Odour
MW2145	21/07/2020	Q2	27.50		15.84	4.835	11.005	Good condition		7.44	10280.8	6168.5	2.93	20.1	-47.1	156.8	Light brown, low turbidity, no odour
MW2145	11/01/2021	Q2	25.00		15.84	4.825	11.015	Good condition		7.45	9585.2	5751.1	3.55	26.0	-172.4	25.6	Clear, Low Turbidity, Organic Odour
MW2145	12/08/2021	Q2	25.00		15.84	4.703	11.137	Good condition		7.30	8948.5	5816.5	5.60	20.3	-180.3	23.5	Light Brown, Low Turbidity, No odour
MW2145	31/01/2022	Q2	25.35	22 - 25	15.84	4.655	11.185	Good condition	25.5	7.36	8394.6	5456.5	1.81	26.5	-191.5	6.0	Light Brown, Low Turbidity, No odour
MW2145	25/07/2022	Q2	25.35	22 - 25	15.840	4.366	11.474	Good condition	25.50	7.09	6584.0	4279.0	1.76	19.4	-0.9	203.7	Light Brown, Slight Organic Odour, Low Turbidity
MW2145	30/01/2023	Q2	25.35	22 - 25	15.840	4.116	11.724	Good condition	23.00	7.01	8019	5212.35	5.21	21.9	-195.2	6.9	Clear, Low turbidity, No odour, No sheen
MW2145	10/07/2023	Q2	25.35	22 - 25	15.840	3.918	11.922	Good condition.		7.10	7870	5115.5	1.62	19.6	-220.4	-16	Clear, low turbidity, no odour.
MW2148	25/03/2020	Q1	10.39			6.132	10.358	Sediment on IP		7.82	5873.0	3523.8	2.55	22.9	111.4	312.5	Light Brown Low turbidity No odour
MW2148	21/07/2020	Q1	10.39		16.49	5.075	11.415	Sediment on IP		7.32	12458.7	7475.22	3.74	19.7	-92.0	112.3	Light brown, medium turbidity, no odour
MW2148	12/01/2021	Q1	10.36		16.49	5.240	11.250	Good condition		7.62	7680.6	4608.36	3.65	31.1	18.6	211.5	Clear, Low Turbidity, Organic Odour
MW2148	02/08/2021	Q1	10.36		16.49	4.659	11.831	Good condition		9.76	6012.0	3907.8	5.02	18.8	110.8	316.0	Light Brown, Low Turbidity, No odour
MW2148	31/01/2022	Q1	10.40	7.36 - 10.36	16.49	4.835	11.655	Good condition	8.39	9.61	7402.0	4811.3	6.52	24.5	2.8	202.3	Light Brown, Low Turbidity, No odour
MW2148	25/07/2022	Q1	10.40	7.36 - 10.36	16.490	4.730	11.760	Good condition	8.39	8.46	3262.0	2120.0	3.49	20.1	47.2	251.1	Light Brown, Low Turbidity, No Odour
MW2148	31/01/2023	Q1	10.40	7.36 - 10.36	16.490	3.646	12.844	Good condition	8.39	7.58	7852	5104	5.34	22.4	-7.9	193.7	Clear, Low turbidity, No odour, No sheen
MW2148	12/07/2023	Q1	10.40	7.36 - 10.36	16.490	3.166	13.324	Good condition.		7.72	6025	3916	5.34	16.1	-7.9	200	Clear, Low turbidity, No odour.

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2149	23/03/2020	Q1	7.30			5.696	10.930	Sediment on IP		7.09	5228.0	3136.8	5.50	21.1	140.0	343.0	Clear Low turbidity No odour
MW2149	22/07/2020	Q1	7.30		16.626	4.548	12.078	Sediment on IP		12.30	9473.6	5684.2	1.76	20.2	-166.3	37.5	Clear, low turbidity, no odour
MW2149	14/01/2021	Q1	7.38		16.626	4.895	11.731	Good condition		7.83	5241.0	3144.6	7.70	22.6	80.2	281.6	Light Brown, Medium turbidity, No odour
MW2149	12/08/2021	Q1	7.38		16.626	4.216	12.410	Good condition		7.53	4852.4	3154.1	5.48	18.1	28.8	234.7	Light Brown, Low Turbidity, No odour
MW2149	01/02/2022	Q1	7.55	4.38 - 7.38	16.626	4.524	12.102	Good condition	5.3	7.91	4145.9	2694.8	7.40	21.9	-46.2	155.9	Light Brown, Medium Turbidity, No odour
MW2149	26/07/2022	Q1	7.55	4.38 - 7.38	16.626	4.103	12.523	Good condition	5.30	7.87	2780.0	1807.0	6.16	17.5	34.4	240.9	Clear, No odour, Low Turbidity
MW2149	30/01/2023	Q1	7.55	4.38 - 7.38	16.626	3.658	12.968	Good condition	5.30	7.83	3392	2205	8.89	23.3	45.2	245.9	Clear, Low turbidity, No odour, No sheen
MW2149	7/07/2023	Q1	7.55	4.38 - 7.38	16.626	3.164	13.462	Good condition.		8.00	1936	1258	5.72	17.4	-62.1	144.5	Clear, medium turbidity, no odour.
MW2150	23/03/2020	Q1	8.06			5.230	9.643	Sediment on IP, covered in vegetation		7.07	2107.0	1264.2	2.09	19.2	141.7	346.5	Light Brown Low turbidity Organic Odour
MW2150	21/07/2020	Q1	8.06		14.873	4.475	10.398	Good condition		8.04	2416.6	1450.0	5.58	18.7	-48.9	156.4	Light yellow, low turbidity, organic odour
MW2150	5/02/2021	Q1	7.97		14.873	4.724	10.149	Buried in grass cuttings		7.53	2353.3	1412.0	3.68	19.3	138.2	342.9	Light Yellow, Low Turbidity, No odour
MW2150	12/08/2021	Q1	7.97		14.873	4.100	10.773	Good condition		7.54	3506.0	2278.9	2.98	19.8	-46.8	157.4	Grey / Brown, Medium Turbidity, No odour
MW2150	01/02/2022	Q1	8.17	4.97 - 7.97	14.873	4.285	10.588	Good condition	6.1	7.67	3315.7	2155.2	1.02	23.6	-64.5	135.9	Clear, Low Turbidity, No odour
MW2150	25/07/2022	Q1	8.17	4.97 - 7.97	14.873	3.984	10.889	Good condition	6.06	7.66	2436.0	1583.0	1.10	19.1	-163.9	41.0	Light Brown, No odour, Low Turbidity
MW2150	30/01/2023	Q1	8.17	4.97 - 7.97	14.873	3.668	11.205	Good condition	6.06	7.57	1860	1209	5.52	22.1	44.8	246.7	Clear, Low turbidity, No odour, No sheen
MW2150	7/07/2023	Q1	8.17	4.97 - 7.97	14.873	3.293	11.580	Good condition		7.70	1162	755	2.50	15.3	-74.4	134.3	Clear, medium turbidity, no odour.
MW2156	19/03/2020	Q1	9.90			7.621	12.152	Sediment on IP		Gauged only							
MW2156	21/07/2020	Q1	9.90		19.773	7.270	12.503	Sediment on IP		Gauged only							
MW2156	12/01/2021	Q1	9.05		19.773	7.100	12.673	Good condition		Gauged only							
MW2156	02/08/2021	Q1	9.05		19.773	6.875	12.898	Good condition		Gauged only							
MW2156	02/02/2022	Q1	9.14	6.05 - 9.05	19.773	6.633	13.140	Good condition	7.9	Gauged only							
MW2156	25/07/2022	Q1	9.14	6.05 - 9.05	19.773	6.074	13.699	Good condition	7.90	Gauged only							
MW2156	31/01/2023	Q1	9.14	6.05 - 9.05	19.773	5.710	14.063	Good condition	-	Gauged only							
MW2156	11/07/2023	Q1	9.14	6.05 - 9.05	19.773	5.374	14.399	Good condition.		Gauged only							
MW2157	25/03/2020	Q2	18.44			6.162	11.615	Good condition		7.62	8843.0	5305.8	2.88	21.0	134.1	337.1	Clear Low turbidity No odour
MW2157	21/07/2020	Q2	18.44		17.724	5.403	12.321	Good condition		8.04	9039.9	5423.9	3.34	19.2	-214.7	-9.9	Clear, low turbidity, organic odour
MW2157	12/01/2021	Q2	18.23		17.777	5.425	12.352	Good condition		7.70	9193.1	5515.9	3.66	22.2	-149.6	52.2	Clear, Low Turbidity, No odour
MW2157	02/08/2021	Q2	18.23		17.777	4.517	13.260	Good condition		7.31	8726.0	5671.9	4.35	18.3	-211.2	-5.5	Grey, Low Turbidity, Organic Odour
MW2157	01/02/2022	Q2	18.50	15.23 - 18.23	17.777	5.103	12.674	Good condition	16.4	7.58	9296.3	6042.6	2.52	22.2	-206.5	-4.7	Clear, Low Turbidity, No odour
MW2157	26/07/2022	Q2	18.50	15.23 - 18.23	17.777	4.852	12.925	Good condition	16.44	7.56	7461.0	4849.0	0.99	19.5	-246.3	-41.8	Clear, No odour, Low Turbidity
MW2157	31/01/2023	Q2	18.50	15.23 - 18.23	17.777	4.460	13.317	Good condition	16.44	7.53	8015	5210	3.79	21.9	-218.2	-16.1	Clear, Low turbidity, Organic Odour, No sheen
MW2157	11/07/2023	Q2	18.50	15.23 - 18.23	17.777	4.084	13.693	Good Condition		7.32	8239	5355	0.71	19.8	-278	-73.8	Clear, Low turbidity, Organic Odour.
MW2158	25/03/2020	Q2	18.47			6.151	10.347	Good condition		7.41	7399.0	4439.4	1.81	21.8	123.0	325.2	Clear Low turbidity No odour
MW2158	21/07/2020	Q2	18.47		16.498	5.085	11.413	Good condition		7.97	6915.0	4149.0	3.74	19.6	-236.6	-32.2	Black, medium turbidity, organic odour
MW2158	12/01/2021	Q2	17.85		16.498	5.265	11.233	Good condition		7.37	8100.3	4860.2	2.72	24.0	3.6	203.6	Clear, Low Turbidity, No odour
MW2158	02/08/2021	Q2	17.85		16.498	4.685	11.813	Good condition		8.62	7875.0	5118.8	4.28	17.6	204.8	411.2	Light Brown, Low Turbidity, No odour
MW2158	31/01/2022	Q2	17.80	14.85 - 17.85	16.498	4.860	11.638	Good condition	16.5	7.95	7878.0	5120.7	4.20	25.4	41.3	239.9	Light Brown, Low Turbidity, No odour
MW2158	25/07/2022	Q2	17.80	14.85 - 17.85	16.498	4.745	11.753	Good condition	16.47	8.57	5837.0	3794.0	3.50	19.6	12.0	216.4	Light Brown, Low Turbidity, No Odour
MW2158	31/01/2023	Q2	17.80	14.85 - 17.85	16.498	3.642	12.856	Good condition	16.47	7.40	6611	4297	6.44	22.1	-81.7	120.2	Light Brown, Low turbidity, No odour, No sheen
MW2158	12/07/2023	Q2	17.80	14.85 - 17.85	16.498	3.172	13.326	Good Condition		7.81	6418	4172	2.40	20.1	-101.3	102.6	Clear, Low turbidity, No odour.
MW2159	24/03/2020	Q1	9.43			7.811	12.667	Sediment on IP		7.01	11151.0	6690.6	3.65	20.0	180.0	384.0	Clear Low turbidity No odour
MW2159	23/07/2020	Q1	9.43		20.478	7.605	12.873	Sediment on IP		7.70	12450.6	7470.4	3.89	19.3	120.0	324.8	Brown, medium turbidity, no odour
MW2159	14/01/2021	Q1	8.50		20.478	7.455	13.023	Good condition		7.47	12244.0	7346.4	3.91	22.1	-10.5	191.4	Clear, Low Turbidity, No odour
MW2159	02/08/2021	Q1	8.50		20.478	7.617	12.861	Good condition		7.07	12793.0	8315.5	2.68	17.1	-58.3	148.7	Grey, Low Turbidity, Slight Organic Odour
MW2159	02/02/2022	Q1	10.59	5.5 - 8.5	20.478	7.285	13.193	Good condition	7.4	7.63	11882.6	7723.7	2.06	21.8	-129.9	72.3	Light Grey, Low Turbidity, No odour
MW2159	27/07/2022	Q1	10.59	5.5 - 8.5	20.478	7.219	13.259	Good condition	7.43	7.40	9008.0	5855.0	1.57	17.8	-22.5	183.7	Clear, No odour, Low Turbidity
MW2159	31/01/2023	Q1	10.59	5.5 - 8.5	20.478	6.682	13.796	Good condition	7.43	7.35	10044	6529	5.86	21.6	82.5	284.9	Clear, Low turbidity, No odour, No sheen
MW2159	11/07/2023	Q1	10.59	5.5 - 8.5	20.478	6.649	13.829	Good Condition		7.15	9782	6358	1.40	18.9	11.2	216.3	Clear, Low turbidity, No odour.
MW2160	18/03/2020	Q2	23.60			7.765	12.668	Good condition		Gauged only							
MW2160	24/07/2020	Q2	23.60		20.433	7.490	12.943	Good condition		Gauged only							
MW2160	14/01/2021	Q2	22.50		20.433	7.425	13.008	Good condition		Gauged only							
MW2160	02/08/2021	Q2	22.50		20.433	7.454	12.979	Good condition		Gauged only							
MW2160	02/02/2022	Q2	23.89	19.5 - 22.5	20.433	7.454	12.979	Good condition	21.6	Gauged only							
MW2160	25/07/2022	Q2	23.89	19.5 - 22.5	20.433	7.106	13.327	Good condition	21.60	Gauged only							
MW2160	31/01/2023	Q2	23.89	19.5 - 22.5	20.433	6.633	13.800	Good condition	-	Gauged only							
MW2160	11/07/2023	Q2	23.89	19.5 - 22.5	20.433	6.514	13.919	Good condition.		Gauged only							
MW2162	22/03/2020	Q2	21.23			7.989	11.732	Good condition		6.73	8549.0	5129.4	1.85	20.4	105.0	308.6	Light Grey Low turbidity Organic Odour
MW2162	20/07/2020	Q2	21.23		19.721	7.643	12.078	Good condition		7.33	9926.7	5956.0	2.66	19.1	-226.8	-21.9	Black, low turbidity, organic odour
MW2162	11/01/2021	Q2	21.00		19.721	7.492	12.229	Good condition		7.25	10386.4	6231.8	2.12	25.4	-203.0	-4.4	Brown, Medium Turbidity, Slight Organic Odour
MW2162	12/08/2021	Q2	21.00		19.721	7.589	12.132	Good condition		7.16	11140.6	7241.4	3.15	18.9	-226.9	-21.8	Clear, Low Turbidity, Organic Odour
MW2162	01/02/2022	Q2	20.98	17 - 21	19.721	7.357	12.364	Good condition	19.2	7.05	11352.7	7379.3	3.79	21.9	-171.4	30.8	Light Grey, Low Turbidity, Slight Organic Odour
MW2162	25/07/2022	Q2	20.98	17 - 21	19.721	7.199	12.522	Good condition	19.23	7.17	8805.0	5723.0	1.83	18.3	-238.4	-32.7	Clear, Organic Odour, Low Turbidity
MW2162	30/01/2023	Q2	20.98	17 - 21	19.721	6.806	12.915	Good condition	19.23	6.87	9857	6407	5.44	22.2	-194.4	7.4	Clear, Low turbidity, Organic Odour, No sheen

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2162	10/07/2023	Q2	20.98	17 - 21	19.721	6.732	12.989	Good condition.		7.06	10012	6508	0.88	19.3	-274.9	-70.2	Grey, low turbidity, organic odour.
MW2163	17/03/2020	Q1	9.40			6.685	11.476	Good condition		Gauged only							
MW2163	20/07/2020	Q1	9.40		18.161	6.435	11.726	Good condition		Gauged only							
MW2163	13/01/2021	Q1	8.50		18.161	6.330	11.831	Good condition		Gauged only							
MW2163	12/08/2021	Q1	8.50		18.161	6.360	11.801	Good condition		Gauged only							
MW2163	01/02/2022	Q1	9.31	5.5 - 8.5	18.161	6.204	11.957	Good condition	7.4	Gauged only							
MW2163	25/07/2022	Q1	9.31	5.5 - 8.5	18.161	6.017	12.144	Good condition	7.40	Gauged only							
MW2163	30/01/2023	Q1	9.31	5.5 - 8.5	18.161	5.662	12.499	Good condition	-	Gauged only							
MW2163	10/07/2023	Q1	9.31	5.5 - 8.5	18.161	5.579	12.582	Good condition.		Gauged only							
MW2164	17/03/2020	Q2	27.31			6.715	11.457	Good condition		Gauged only							
MW2164	20/07/2020	Q2	27.31		18.172	6.427	11.745	Good condition		Gauged only							
MW2164	11/01/2021	Q2	25.50		18.172	6.335	11.837	Good condition		Gauged only							
MW2164	12/08/2021	Q2	25.50		18.172	6.310	11.862	Good condition		Gauged only							
MW2164	01/02/2022	Q2	25.91	22.5 - 25.5	18.172	6.175	11.997	Good condition	25.3	Gauged only							
MW2164	25/07/2022	Q2	25.91	22.5 - 25.5	18.172	5.978	12.194	Good condition	25.31	Gauged only							
MW2164	30/01/2023	Q2	25.91	22.5 - 25.5	18.172	5.614	12.558	Good condition	-	Gauged only							
MW2164	10/07/2023	Q2	25.91	22.5 - 25.5	18.172	5.470	12.702	Good condition.		Gauged only							
MW2166	23/03/2020	Q1	8.10			7.481	11.582	Good condition		6.80	12342.0	7405.2	2.95	19.2	173.4	378.2	Brown Medium turbidity No odour
MW2166	20/07/2020	Q1	8.10		19.063	7.085	11.978	Good condition		7.35	13581.3	8148.8	4.80	19.0	-47.7	157.3	Brown, high turbidity, no odour
MW2166	11/01/2021	Q1	8.00		19.063	7.122	11.941	Good condition		6.93	5879.8	3527.9	1.61	26.2	-124.9	72.9	Black, Medium Turbidity, Slight Organic Odour
MW2166	12/08/2021	Q1	8.00		19.063	7.120	11.943	Good condition		6.84	11679.6	7591.7	2.07	19.3	-117.0	87.7	Black, Medium Turbidity, No odour
MW2166	31/01/2022	Q1	8.75	5 - 8	19.063	6.981	12.082	Good condition	6.1	7.04	12390.3	8053.7	1.76	26.0	-99.4	98.6	Black/ Grey, Organic Odour
MW2166	25/07/2022	Q1	8.75	5 - 8	19.063	6.786	12.277	Good condition	6.10	6.96	10399.0	6759.0	0.75	19.4	-115.5	89.1	Black/ Grey, No odour, Medium Turbidity
MW2166	30/01/2023	Q1	8.75	5 - 8	19.063	6.522	12.541	Good condition	6.10	6.98	12707	8260	5.66	22	-17.5	184.5	Light Brown, Medium turbidity, No odour, No sheen
MW2166	10/07/2023	Q1	8.75	5 - 8	19.063	6.372	12.691	Good condition.		7.13	14050	9133	1.94	18.2	-106	99.8	Brown, low turbidity, no odour.
MW2169	23/03/2020	Q1	8.25			5.785	10.823	Good condition		6.75	10518.0	6310.8	3.19	19.6	168.0	372.4	Brown Medium turbidity Slight Organic Odour
MW2169	20/07/2020	Q1	8.25		16.608	5.420	11.188	Good condition		7.50	1554.7	932.8	4.17	19.6	-66.2	138.2	Light brown, high turbidity, no odour
MW2169	11/01/2021	Q1	7.50		16.608	5.395	11.213	Good condition		7.38	11233.7	6740.2	3.54	24.4	-8.6	191.0	Light Brown, Low Turbidity, No odour
MW2169	12/08/2021	Q1	7.50		16.608	5.308	11.300	Good condition		7.33	11330.7	7365.0	4.05	20.0	-37.9	166.1	Light Brown, Low Turbidity, No odour
MW2169	31/01/2022	Q1	8.00	4.5 - 7.5	16.608	5.227	11.381	Good condition	6.3	7.35	11001.9	7151.2	2.79	26.8	-52.3	144.9	Brown, Turbid, No odour
MW2169	25/07/2022	Q1	8.00	4.5 - 7.5	16.608	4.965	11.643	Good condition	6.25	7.21	8750.0	5687.0	2.07	19.5	-22.1	182.4	Orange / Brown, Slight Organic Odour, Medium Turbidity
MW2169	30/01/2023	Q1	8.00	4.5 - 7.5	16.608	4.700	11.908	Good condition	6.25	7.1	9574	6223	4.87	21.9	-89.4	112.7	Brown, High turbidity, No odour, No sheen
MW2169	10/07/2023	Q1	8.00	4.5 - 7.5	16.608	4.521	12.087	Good condition.		7.11	9348	6076	1.66	19.7	2.2	206.5	Brown, low to medium turbidity, no odour.
MW2171	17/03/2020	Q1	10.15			6.150	10.321	Good condition		Gauged only							
MW2171	20/07/2020	Q1	10.15		16.471	6.102	10.369	Good condition		Gauged only							
MW2171	11/01/2021	Q1	9.50		16.471	5.875	10.596	Good condition		Gauged only							
MW2171	12/08/2021	Q1	9.50		16.471	6.064	10.407	Good condition		Gauged only							
MW2171	31/01/2022	Q1	10.05	6.2 - 9.5	16.471	5.741	10.730	Good condition	8.2	Gauged only							
MW2171	25/07/2022	Q1	10.05	6.2 - 9.5	16.471	5.736	10.735	Good condition	8.15	Gauged only							
MW2171	30/01/2023	Q1	10.05	6.2 - 9.5	16.471	5.290	11.181	Good condition	-	Gauged only							
MW2171	10/07/2023	Q1	10.05	6.2 - 9.5	16.471	5.298	11.173	Good condition.		Gauged only							
MW2172	23/03/2020	Q1	10.20			5.890	9.938	Sediment on IP		6.77	23436.0	14061.6	2.60	22.5	174.4	375.9	Clear Low turbidity Organic Odour
MW2172	20/07/2020	Q1	10.20		15.828	5.525	10.303	Sediment on IP		7.52	23432.6	14059.6	4.76	19.4	-87.3	117.3	Clear, low turbidity, no odour
MW2172	11/01/2021	Q1	9.50		15.828	5.480	10.348	Good condition		7.31	21366.6	12820.0	3.40	26.6	-22.7	174.7	Clear, Low Turbidity, No odour
MW2172	12/08/2021	Q1	9.50		15.828	5.223	10.605	Good condition		7.36	19700.1	12805.1	3.03	20.8	-42.0	161.2	Clear, Low Turbidity, No odour
MW2172	31/01/2022	Q1	10.27	6.5 - 9.5	15.828	5.270	10.558	Good condition	8.2	7.49	18313.6	11903.8	3.18	25.7	2.5	200.8	Clear, Low Turbidity, No odour
MW2172	25/07/2022	Q1	10.27	6.5 - 9.5	15.828	5.113	10.715	Good condition	8.20	7.51	13781.0	8957.0	2.69	19.8	-93.4	110.8	Light Brown, No odour, Low Turbidity
MW2172	30/01/2023	Q1	10.27	6.5 - 9.5	15.828	4.838	10.990	Good condition	7.50	7.32	14106	9169	4.23	22	-227.4	-25.4	Clear, Low turbidity, No odour, No sheen
MW2172	10/07/2023	Q1	10.27	6.5 - 9.5	15.828	4.551	11.277	Good condition.		7.36	12147	7896	2.93	20.8	-86	117.2	Clear, no turbidity, no odour.
MW2173	23/03/2020	Q2	20.63			6.063	9.819	Good condition		6.95	25640.0	15384.0	1.26	22.4	66.7	268.3	Light Grey Low turbidity Organic Odour
MW2173	20/07/2020	Q2	20.63		15.882	5.550	10.332	Good condition		8.60	23343.1	14005.9	3.40	20.1	-336.1	-132.2	Clear, low turbidity, organic odour
MW2173	11/01/2021	Q2	21.00		15.882	5.542	10.340	Good condition		7.01	31996.1	19197.7	1.10	26.3	-214.8	-17.1	Black/ Grey, Medium Turbidity, Organic Odour
MW2173	12/08/2021	Q2	21.00		15.882	5.334	10.548	Good condition		7.14	30205.8	19633.8	1.91	20.1	-167.9	36.0	Black, Turbid, Organic Odour
MW2173	31/01/2022	Q2	20.35	16.5 - 21	15.882	5.322	10.560	Good condition	18.6	7.06	29493.9	19171.0	2.19	25.4	-134.6	64.0	Black/ Grey, Turbid, Organic Odour
MW2173	25/07/2022	Q2	20.35	16.5 - 21	15.882	5.175	10.707	Good condition	18.63	7.12	23296.0	15142.0	1.44	19.9	-192.2	11.9	Black/ Grey, Organic Odour, Medium Turbidity
MW2173	30/01/2023	Q2	20.35	16.5 - 21	15.882	4.905	10.977	Good condition	18.63	8.14	25351	16478	5.24	22.3	-307.4	-105.7	Clear, Low turbidity, Organic Odour, No sheen
MW2173	10/07/2023	Q2	20.35	16.5 - 21	15.882	4.659	11.223	Good condition.		6.98	26032	16921	0.62	20.1	-298.5	-94.6	Clear, no turbidity, organic odour.
MW2175	23/03/2020	Q1	9.19			4.917	9.521	Good condition		6.79	21403.0	12841.8	3.21	22.1	184.2	386.1	Light Grey Low turbidity Organic Odour
MW2175	20/07/2020	Q1	9.19		14.438	4.710	9.728	Good condition		7.29	23264.0	13958.4	4.19	19.9	-234.2	-30.1	Black grey, low turbidity, organic odour
MW2175	11/01/2021	Q1	8.30		14.438	4.545	9.893	Good condition		7.23	24589.6	14753.8	1.63	24.3	6.0	205.7	Orange, Medium Turbidity, No odour
MW2175	12/08/2021	Q1	8.30		14.438	4.625	9.813	Good condition		7.59	25256.7	16416.9	5.45	18.8	55.5	260.7	Light Brown, Medium Turbidity, No odour
MW2175	31/01/2022	Q1	9.15	5.3 - 8.3	14.438	4.402	10.036	Good condition	7.2	7.28	24814.8	16129.6	2.75	26.2	-43.2	154.6	Brown, Medium Turbidity, No odour
MW2175	25/07/2022	Q1	9.15	5.3 - 8.3	14.438	4.243	10.195	Good condition	7.19	7.34	19554.0	12710.0	2.60	19.0	29.9	234.9	Clear, No odour, Low Turbidity

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field	Redox Potential - Corrected	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV		
MW2175	30/01/2023	Q1	9.15	5.3 - 8.3	14.438	3.852	10.586	Good condition	6.19	7.04	21300	13845	6.22	21.4	93.4	296	Clear, Low turbidity, No odour, No sheen
MW2175	10/07/2023	Q1	9.15	5.3 - 8.3	14.438	3.754	10.684	Good condition.		7.51	22231	14450	2.25	19.7	75.9	280.2	Light Brown, Low turbidity, No odour.
MW2176	23/03/2020	Q2	23.42			5.403	8.879	Good condition		6.75	33514.0	20108.4	2.81	23.0	51.3	252.3	Light Grey Low turbidity Slight Organic Odour
MW2176	20/07/2020	Q2	23.42		14.282	4.545	9.737	Good condition		7.07	28241.9	16945.1	1.64	20.4	-208.8	-5.2	Clear, low turbidity, no odour
MW2176	11/01/2021	Q2	22.20		14.282	4.410	9.872	Good condition		7.04	28672.5	17203.5	2.25	25.3	-131.3	67.4	Clear, Low Turbidity, Organic Odour
MW2176	12/08/2021	Q2	22.20		14.282	4.489	9.793	Good condition		7.19	26355.9	17131.3	2.98	19.0	-154.6	50.4	Light Brown, Low Turbidity, No odour
MW2176	31/01/2022	Q2	23.10	19.2 - 22.2	14.282	4.278	10.004	Good condition	21.4	6.98	28061.2	18239.8	2.54	26.4	-134.7	62.9	Clear, No odour
MW2176	25/07/2022	Q2	23.10	19.2 - 22.2	14.282	4.131	10.151	Good condition	21.42	6.98	22466.0	14602.0	1.65	19.5	73.1	277.6	Light Brown, No odour, Low Turbidity
MW2176	30/01/2023	Q2	23.10	19.2 - 22.2	14.282	3.758	10.524	Good condition	20.40	6.77	25849	16802	4.18	22.2	-125.4	76.4	Clear, Low turbidity, No odour, No sheen
MW2176	10/07/2023	Q2	23.10	19.2 - 22.2	14.282	3.675	10.607	Good condition.		6.73	26391	17154	1.08	19.8	-166.5	37.7	Clear, no turbidity, no odour.
MW2177	23/03/2020	Q1	7.87			4.543	9.359	Sediment on IP		6.88	13279.0	7967.4	2.43	23.2	182.7	383.5	Light Grey Low turbidity Slight Organic Odour
MW2177	20/07/2020	Q1	7.87		13.902	4.315	9.587	Sediment on IP		7.78	13810.7	8286.4	5.26	20.1	-20.2	183.7	Black, medium turbidity, no odour
MW2177	11/01/2021	Q1	7.20		13.902	4.145	9.757	Good condition		7.64	14118.5	8471.1	2.33	24.0	8.5	208.5	Light Brown, Medium Turbidity, No odour
MW2177	12/08/2021	Q1	7.20		13.902	4.213	9.689	Good condition		7.77	13200.8	8580.5	5.42	20.7	50.2	253.5	Light Brown, Medium Turbidity, No odour
MW2177	31/01/2022	Q1	7.82	4.2 - 7.2	13.902	4.016	9.886	Good condition	5.9	7.76	13025.1	8466.3	2.97	25.8	36.8	235.0	Light Brown, Low Turbidity, No odour
MW2177	25/07/2022	Q1	7.82	4.2 - 7.2	13.902	3.764	10.138	Good condition	5.87	7.76	9760.0	6344.0	4.48	19.3	-12.0	192.7	Light Brown, No odour, Low Turbidity
MW2177	30/01/2023	Q1	7.82	4.2 - 7.2	13.902	3.442	10.460	Good condition	5.27	7.46	9884	6425	6.27	22	68.7	270.7	Clear, Low turbidity, No odour, No sheen
MW2177	10/07/2023	Q1	7.82	4.2 - 7.2	13.902	3.024	10.878	Good condition.		8.09	4663	3031	5.42	18.4	-20.6	185	Orange, Low turbidity, No odour.
MW2180	23/03/2020	Q1	7.91			4.951	9.244	Sediment on IP		7.24	3258.0	1954.8	1.69	23.3	136.5	337.2	Clear Low turbidity No odour
MW2180	20/07/2020	Q1	7.91		14.195	4.587	9.608	Sediment on IP		8.36	3429.1	2057.5	4.74	19.1	-9.0	195.9	Clear, low turbidity, no odour
MW2180	11/01/2021	Q1	10.00		14.195	4.440	9.755	Good condition		-	-	-	-	-	-	#VALUE!	Field transcription error
MW2180	12/08/2021	Q1	10.00		14.195	4.420	9.775	Good condition		8.09	3411.4	2217.4	3.66	20.6	-38.5	164.9	Light Brown, Low Turbidity, No odour
MW2180	31/01/2022	Q1	10.00	4 - 10	14.195	4.275	9.920	Good condition	5.9	8.06	3240.9	2106.6	1.88	26.1	-43.6	154.4	Light Brown, Low Turbidity, No odour
MW2180	25/07/2022	Q1	10.00	4 - 10	14.195	4.160	10.035	Good condition	5.91	8.09	2654.0	1725.0	2.30	19.5	-92.2	112.3	Light Brown, No odour, Low Turbidity
MW2180	30/01/2023	Q1	10.00	4 - 10	14.195	3.823	10.372	Good condition	5.91	7.85	3064	1992	6.29	21.8	5.3	207.5	Clear, Low turbidity, No odour, No sheen
MW2180	10/07/2023	Q1	10.00	4 - 10	14.195	3.574	10.621	Good condition.		8.05	2896	1882	3.01	19.1	-77.1	127.8	Brown, low turbidity, no odour.
MW2182	23/03/2020	Q1	7.02			4.478	9.343	Sediment on IP		6.70	18370.0	11022.0	2.83	22.3	152.8	354.5	Clear Low turbidity No odour
MW2182	20/07/2020	Q1	7.02		13.821	3.825	9.996	Sediment on IP		8.22	14194.9	8516.9	5.20	20.0	-60.9	143.1	Light brown, medium turbidity, no odour
MW2182	11/01/2021	Q1	10.00		13.821	3.805	10.016	Good condition		8.30	17698.5	10619.1	1.83	24.7	137.6	336.9	Light Brown, Medium Turbidity, No odour
MW2182	12/08/2021	Q1	10.00		13.821	3.366	10.455	Good condition		7.58	10231.6	6650.5	0.91	20.7	76.4	279.7	Light Brown, Low Turbidity, No odour
MW2182	31/01/2022	Q1	6.98	4.1 - 10	13.821	3.325	10.496	Good condition	5.0	8.36	5900.0	3835.0	1.89	27.6	37.3	233.7	Brown, Turbid, No odour
MW2182	25/07/2022	Q1	6.98	4.1 - 10	13.821	3.385	10.436	Good condition	5.02	7.78	6490.0	4218.0	1.41	20.8	-9.9	193.3	Clear, No odour, Low Turbidity
MW2182	30/01/2023	Q1	6.98	4.1 - 10	13.821	3.110	10.711	Good condition	5.02	7.79	5504	3578	5.36	21.5	-97.4	105.1	Clear, Medium turbidity, No odour, No sheen
MW2182	10/07/2023	Q1	6.98	4.1 - 10	13.821	2.813	11.008	Good condition.		8.26	2344	1524	1.21	20.3	29.1	232.8	Brown, low turbidity, no odour.
MW2183	23/03/2020	Q2	19.92			5.522	9.309	Good condition		6.78	14813.0	8887.8	1.27	21.6	155.3	357.7	Light Brown Low turbidity No odour
MW2183	20/07/2020	Q2	19.92		14.831	4.828	10.003	Good condition		8.71	16452.4	9871.4	2.42	18.6	-178.0	27.4	Black grey, medium turbidity, organic odour
MW2183	11/01/2021	Q2	20.00		14.831	4.882	9.949	Good condition		8.47	16617.0	9970.2	2.26	25.2	142.4	341.2	Light Brown, Medium Turbidity, No odour
MW2183	12/08/2021	Q2	20.00		14.831	4.545	10.286	Good condition		7.18	15460.8	10049.5	2.15	20.4	118.1	321.7	Clear, Low Turbidity, No odour
MW2183	31/01/2022	Q2	19.70	16.2 - 20	14.831	4.581	10.250	Good condition	17.9	8.42	15477.0	10060.1	1.40	25.7	9.3	207.6	Brown, No odour
MW2183	25/07/2022	Q2	19.70	16.2 - 20	14.831	4.364	10.467	Good condition	17.92	8.03	11990.0	7793.0	1.15	19.3	-99.9	104.8	Light Brown, No odour, Low Turbidity
MW2183	30/01/2023	Q2	19.70	16.2 - 20	14.831	4.132	10.699	Good condition	17.92	6.95	12935	8408	6.31	22.1	58.1	260	Clear, Low turbidity, No odour, No sheen
MW2183	10/07/2023	Q2	19.70	16.2 - 20	14.831	3.814	11.017	Good condition.		7.05	13300	8645	1.71	19.8	69.7	273.9	Grey, Low turbidity, No odour.
MW2184	23/03/2020	Q1	6.14			4.849	10.437	Good condition		7.72	7856.0	4713.6	6.54	24.4	136.1	335.7	Brown Medium turbidity No odour
MW2184	20/07/2020	Q1	6.14		14.438	4.050	10.388	Good condition		7.90	4647.9	2788.7	4.15	16.6	-172.3	35.1	Black/ Grey, medium turbidity, no odour
MW2184	11/01/2021	Q1	8.30		14.438	4.200	10.238	Good condition		7.54	4322.4	2593.4	2.91	27.1	184.8	381.7	Yellow, Medium Turbidity, No odour
MW2184	12/08/2021	Q1	8.30		14.438	3.737	10.701	Good condition		8.24	1527.2	992.7	2.77	21.5	13.9	216.5	Clear, Low Turbidity, No odour
MW2184	31/01/2022	Q1	6.10	3.2 - 8.3	14.438	3.859	10.579	Good condition	4.1	7.69	1228.0	798.2	2.36	24.8	109.2	308.4	Brown, Turbid, No odour
MW2184	25/07/2022	Q1	6.10	3.2 - 8.3	14.438	3.596	10.842	Good condition	4.14	8.31	1414.0	919.0	1.76	19.3	102.0	306.7	Light Brown, No odour, Low Turbidity
MW2184	30/01/2023	Q1	6.10	3.2 - 8.3	14.438	3.392	11.046	Good condition	4.14	8.04	2365	1537	4.12	21.8	-38.3	163.9	Clear, Low turbidity, No odour, No sheen
MW2184	10/07/2023	Q1	6.10	3.2 - 8.3	14.438	2.953	11.485	Good condition.		8.13	1437	934	1.32	20	-222.9	-18.9	Black, low turbidity, slight organic odour
MW2185	23/03/2020	Q2	18.96			6.010	8.428	Good condition		7.41	8282.0	4969.2	1.41	21.8	124.8	327.0	Clear Low turbidity No odour
MW2185	20/07/2020	Q2	18.96		15.286	4.890	10.396	Good condition		7.31	9543.1	5725.9	2.82	16.3	-222.6	-14.9	Clear, low turbidity, organic odour
MW2185	11/01/2021	Q2	18.00		15.286	5.045	10.241	Good condition		6.83	8923.4	5354.0	3.12	25.1	204.8	403.7	Clear, Low Turbidity, No odour
MW2185	12/08/2021	Q2	18.00		15.286	4.590	10.696	Good condition		7.67	8383.9	5449.5	3.56	20.1	109.9	313.8	Clear, Low Turbidity, No odour
MW2185	31/01/2022	Q2	18.74	16.5 - 18	15.286	4.700	10.586	Good condition	17.0	6.75	8093.0	5260.5	4.64	24.2	181.3	381.2	Yellow / Brown, Low Turbidity, No odour
MW2185	25/07/2022	Q2	18.74	16.5 - 18	15.286	4.429	10.857	Good condition	16.96	7.54	6315.0	4104.0	2.10	19.7	101.9	306.2	Light Brown, No odour, Low Turbidity

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2185	30/01/2023	Q2	18.74	16.5 - 18	15.286	4.218	11.068	Good condition	16.96	7.6	6721	4369	5.60	21.1	113.1	316	Clear, Low turbidity, No odour, No sheen
MW2185	10/07/2023	Q2	18.74	16.5 - 18	15.286	3.789	11.497	Good condition.		7.46	6883	4474	1.53	20.1	38.8	242.7	Brown, low turbidity, no odour.
MW2188	23/03/2020	Q1	5.58			5.281	10.179	Sediment on IP, blocked at 5.58m btoc		Insufficient water for sample							
MW2188	21/07/2020	Q1	5.58		15.46	4.460	11.000	Good condition		Insufficient water for parameters. Sampled only.							
MW2188	14/01/2021	Q1	5.50		15.46	-	-	SWL below hydrasleeve		Insufficient water for parameters							
MW2188	13/08/2021	Q1	5.50		15.46	4.167	11.293	Good condition		7.74	10702.9	6956.9	7.50	17.8	-75.6	130.6	Clear, Low Turbidity, No odour
MW2188	01/02/2022	Q1	5.51	2.5 - 5.5	15.46	4.330	11.130	Good condition	3.6	7.67	4601.2	2990.8	4.19	23.1	-12.9	188.0	Light Brown, Medium Turbidity, No odour
MW2188	25/07/2022	Q1	5.51	2.5 - 5.5	15.460	4.008	11.452	Good condition	3.58	7.67	7671.0	4986.0	1.93	17.8	-82.9	123.3	Light Brown, No odour, Low Turbidity
MW2188	30/01/2023	Q1	5.51	2.5 - 5.5	15.460	3.595	11.865	Good condition	3.58	7.62	7572	4922	5.30	24.3	53.9	253.6	Clear, Low turbidity, No odour, No sheen
MW2188	7/07/2023	Q1	5.51	2.5 - 5.5	15.460	3.212	12.248	Good condition		7.63	4888	3177	1.75	18.4	-13.5	192.1	Clear, medium turbidity, no odour.
MW2189	23/03/2020	Q2	20.52			5.607	9.594	Good condition		6.87	1808.0	1084.8	1.89	22.0	34.5	236.5	Light Brown Low turbidity No odour
MW2189	21/07/2020	Q2	20.52		15.201	4.175	11.026	Good condition		7.83	1194.1	716.5	2.50	20.1	-219.0	-15.1	Light brown, low turbidity, organic odour
MW2189	14/01/2021	Q2	21.00		15.201	4.345	10.856	Good condition		8.20	1728.2	1036.9	2.47	25.2	-191.2	7.6	Black/ Grey, Low to Medium Turbdity, Organic Odour
MW2189	13/08/2021	Q2	21.00		15.201	3.846	11.355	Good condition		7.73	3443.4	2238.2	1.74	17.4	-200.3	6.3	Clear, Low Turbidity, Organic Odour
MW2189	01/02/2022	Q2	20.69	17 - 21	15.201	4.028	11.173	Good condition	18.5	7.73	2903.2	1887.1	1.48	24.8	-184.8	14.4	Black/ Grey, Low Turbidity, Slight Organic Odour
MW2189	25/07/2022	Q2	20.69	17 - 21	15.201	3.708	11.493	Good condition	18.52	7.72	2620.0	1703.0	1.65	19.5	-223.7	-19.2	Light Brown, No odour, Low Turbidity
MW2189	30/01/2023	Q2	20.69	17 - 21	15.201	3.325	11.876	Good condition	18.52	7.97	2605	1693	5.41	24.4	-99.6	100	Clear, Low turbidity, organic odour, No sheen
MW2189	7/07/2023	Q2	20.69	17 - 21	15.201	2.914	12.287	Good condition.		7.49	2978	1936	0.66	18.9	-264.1	-59	Clear, medium turbidity, no odour.
MW2193	23/03/2020	Q1	6.42			4.823	11.095	Good condition		7.23	4047.0	2428.2	2.28	19.9	148.6	352.7	Clear Low turbidity No odour
MW2193	21/07/2020	Q1	6.42		15.918	4.105	11.813	Good condition		7.83	8486.9	5092.1	5.83	18.1	97.2	303.2	Light yellow, low turbidity, no odour
MW2193	14/01/2021	Q1	6.50		15.918	4.080	11.838	Good condition		7.75	5922.5	3553.5	2.56	22.7	82.4	283.7	Light Brown, Low to Medium Turbidity, No odour
MW2193	12/08/2021	Q1	6.50		15.918	3.778	12.140	Good condition		7.73	5585.9	3630.8	3.56	19.1	25.6	230.5	Light Brown, Low Turbidity, No odour
MW2193	31/01/2022	Q1	6.42	3.5 - 6.5	15.918	3.750	12.168	Good condition	4.4	7.85	5548.0	3606.2	2.53	26.2	-136.1	61.8	Brown, Medium Turbidity, No odour
MW2193	25/07/2022	Q1	6.42	3.5 - 6.5	15.918	3.541	12.377	Good condition	4.42	7.79	4163.0	2705.0	1.94	19.4	-130.9	73.7	Light Brown, No odour, Low Turbidity
MW2193	30/01/2023	Q1	6.42	3.5 - 6.5	15.918	3.202	12.716	Good condition	4.42	7.62	4680	3042	5.76	22.7	-123	78.3	Light Brown, Low turbidity, No odour, No sheen
MW2193	7/07/2023	Q1	6.42	3.5 - 6.5	15.918	2.906	13.012	Good condition.		7.79	3747	2436	1.04	18.6	-143.6	61.8	Clear, Low turbidity, No odour.
MW2194	23/03/2020	Q1	9.40			4.485	10.825	Sediment on IP		6.81	24551.0	14730.6	2.78	19.1	193.2	398.1	Clear turbidity Slight Organic Odour
MW2194	21/07/2020	Q1	9.40		15.31	4.170	11.140	Sediment on IP		7.12	25038.8	15023.3	1.77	18.8	-188.5	16.7	Black, low turbidity, organic odour
MW2194	14/01/2021	Q1	10.00		15.31	4.185	11.125	Good condition		7.35	25280.2	15168.1	3.34	22.8	105.8	307.0	Light Brown, Low to Medium Turbidity, No odour
MW2194	12/08/2021	Q1	10.00		15.31	3.857	11.453	Good condition		7.22	24421.1	15873.7	2.97	20.4	-16.3	187.3	Black/ Grey, Low Turbidity, No odour
MW2194	01/02/2022	Q1	9.34	7 - 10	15.31	3.890	11.420	Good condition	7.4	7.36	24421.0	15873.7	4.34	21.6	-45.5	156.9	Light Brown, Low Turbidity, No odour
MW2194	25/07/2022	Q1	9.34	7 - 10	15.310	3.661	11.649	Good condition	7.40	7.11	18945.0	12314.0	1.39	19.5	-160.3	44.2	Clear, No odour, Low Turbidity
MW2194	30/01/2023	Q1	9.34	7 - 10	15.310	3.350	11.960	Good condition	7.40	7.14	20593	13385	6.61	22.2	33.2	235	Light Brown, Low turbidity, No odour, No sheen
MW2194	7/07/2023	Q1	9.34	7 - 10	15.310	3.170	12.140	Good condition.		7.27	15884	10325	1.39	16.9	-109.1	98	Clear, medium turbidity, no odour.
MW2195	18/03/2020	Q2	23.08			5.504	10.546	Good condition		Gauged only							
MW2195	20/07/2020	Q2	23.08		16.05	4.795	11.255	Good condition		Gauged only							
MW2195	14/01/2021	Q2	24.00		16.05	4.875	11.175	Good condition		Gauged only							
MW2195	12/08/2021	Q2	24.00		16.05	4.465	11.585	Good condition		Gauged only							
MW2195	01/02/2022	Q2	23.21	19 - 24	16.05	4.563	11.487	Good condition	21.1	Gauged only							
MW2195	25/07/2022	Q2	23.21	19 - 24	16.050	4.270	11.780	Good condition	21.08	Gauged only							
MW2195	30/01/2023	Q2	23.21	19 - 24	16.050	4.134	11.916	Good condition	21.08	Gauged only							
MW2195	7/07/2023	Q2	23.21	19 - 24	16.050	3.752	12.298	Good condition.		Gauged only							
MW2197	23/03/2020	Q1	8.09			6.285	11.357	Good condition		6.96	7474.0	4484.4	2.59	18.4	154.6	360.2	Brown Medium turbidity Organic Odour
MW2197	21/07/2020	Q1	8.09		17.642	5.700	11.942	Good condition		7.29	8959.5	5375.7	5.23	17.8	104.3	310.5	Light yellow, low turbidity, no odour
MW2197	14/01/2021	Q1	7.50		17.642	5.635	12.007	Good condition		7.65	9690.4	5814.2	2.47	22.0	81.9	283.9	Light Brown, Low to Medium Turbidity, No odour
MW2197	12/08/2021	Q1	7.50		17.642	5.387	12.255	Good condition		7.36	8469.0	5504.9	3.33	17.4	51.3	257.9	Brown, Turbid, No odour
MW2197	01/02/2022	Q1	8.06	4.5 - 7.5	17.642	5.281	12.361	Good condition	6.1	7.66	8862.8	5760.8	1.69	21.3	-106.5	96.3	Light Brown, Medium Turbidity, No odour
MW2197	25/07/2022	Q1	8.06	4.5 - 7.5	17.642	5.052	12.590	Good condition	6.09	7.86	6185.0	4020.0	1.08	19.4	-158.1	46.5	Clear, No odour, Low Turbidity
MW2197	30/01/2023	Q1	8.06	4.5 - 7.5	17.642	5.132	12.510	Good condition	6.09	7.64	7587	4932	6.14	24.1	15.3	215.2	Light Brown, Medium turbidity, No odour, No sheen
MW2197	7/07/2023	Q1	8.06	4.5 - 7.5	17.642	4.865	12.777	Good condition.		7.69	5630	3660	1.56	18.4	15.4	221	Clear, Low turbidity, No odour.
MW2199	17/03/2020	Q2	24.23			6.020	11.157	Good condition		Gauged only							
MW2199	20/07/2020	Q2	24.23		17.177	5.645	11.532	Good condition		Gauged only							
MW2199	14/01/2021	Q2	24.00		17.177	5.595	11.582	Good condition		Gauged only							
MW2199	13/08/2021	Q2	24.00		17.177	5.386	11.791	Good condition		Gauged only							
MW2199	01/02/2022	Q2	23.95	20 - 24	17.177	5.345	11.832	Good condition	22.2	Gauged only							
MW2199	25/07/2022	Q2	23.95	20 - 24	17.177	5.146	12.031	Good condition	22.23	Gauged only							

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2199	30/01/2023	Q2	23.95	20 - 24	17.177	4.755	12.422	Good condition	-	Gauged only							
MW2199	7/07/2023	Q2	23.95			4.585	12.592	Good condition.		Gauged only							
MW2200	22/03/2020	Q2	19.64			6.228	11.675	Good condition		10.39	12816.0	7689.6	2.24	19.7	94.7	299.0	Clear Low turbidity No odour
MW2200	20/07/2020	Q2	19.64		17.903	5.753	12.150	Good condition		12.37	13885.0	8331.0	7.85	18.6	-203.9	1.5	Clear, low turbidity, no odour
MW2200	11/01/2021	Q2	19.50		17.903	5.692	12.211	Good condition		11.57	12096.4	7257.8	1.40	25.5	-230.8	-32.3	Light Yellow, Low Turbidity, No odour
MW2200	13/08/2021	Q2	19.50		17.903	5.456	12.447	Good condition		10.02	12696.7	8252.9	2.16	19.1	-210.6	-5.7	Other, Medium Turbidity, No odour
MW2200	31/01/2022	Q2	19.65	16.5 - 19.5	17.903	5.429	12.474	Good condition	17.6	10.08	10945.3	7114.4	3.55	28.0	-184.2	11.8	Light Brown, Medium Turbidity, No odour
MW2200	26/07/2022	Q2	19.65	16.5 - 19.5	17.903	5.214	12.689	Good condition	17.64	9.12	11852.0	7703.0	2.14	18.7	-263.1	-57.8	Black/ Grey, Slight Organic Odour, Medium Turbidity
MW2200	30/01/2023	Q2	19.65	16.5 - 19.5	17.903	5.070	12.833	Good condition	17.64	8.63	14066	9143	3.13	21.6	-240.9	-38.5	Clear, Low turbidity, Organic Odour, No sheen
MW2200	10/07/2023	Q2	19.65	16.5 - 19.5	17.903	4.805	13.098	Good condition.		7.61	14769	9600	1.16	19.7	-287.4	-83.1	Clear, Low turbidity, No odour.
MW2201	22/03/2020	Q1	9.85			4.744	11.651	Good condition		6.82	4029.0	2417.4	2.48	20.9	65.8	268.9	Brown Medium turbidity Organic Odour
MW2201	21/07/2020	Q1	9.85		16.395	4.460	11.935	Good condition		7.67	2277.9	1366.7	3.07	19.9	-116.9	87.2	Brown, medium turbidity, no odour
MW2201	11/01/2021	Q1	10.00		16.395	4.270	12.125	Good condition		7.62	4097.2	2458.3	4.31	24.3	-90.9	108.8	Brown, Medium Turbidity, Slight Organic Odour
MW2201	13/08/2021	Q1	10.00		16.395	4.046	12.349	Good condition		7.37	8590.1	5583.6	2.36	19.0	-136.0	69.0	Black/ Grey, Turbid, Slight Organic Odour
MW2201	01/02/2022	Q1	9.82	7 - 10	16.395	4.011	12.384	Good condition	7.85	7.87	5044.5	3278.9	3.38	20.9	-148.2	54.9	Light Grey, Medium Turbidity, No odour
MW2201	25/07/2022	Q1	9.82	7 - 10	16.395	3.956	12.439	Good condition	7.85	7.42	8600.0	5590.0	1.57	19.2	-191.0	13.8	Light Brown, No odour, Low Turbidity
MW2201	30/01/2023	Q1	9.82	7 - 10	16.395	3.530	12.865	Good condition	7.85	7.12	5327	3463	3.48	22.4	-156	45.6	Clear, Low turbidity, No odour, No sheen
MW2201	10/07/2023	Q1	9.82	7 - 10	16.395	3.314	13.081	Good condition.		7.33	1486	966	0.65	20.6	-215.2	-11.8	Black, low turbidity, no odour.
MW2202	22/03/2020	Q2	24.28			5.221	11.252	Good condition		6.63	11397.0	6838.2	1.65	19.9	35.0	239.1	Light Grey Low turbidity Organic Odour
MW2202	20/07/2020	Q2	24.28		16.473	4.375	12.098	Good condition		7.11	12792.0	7675.2	3.12	19.5	-180.3	24.2	Black, low turbidity, organic odour
MW2202	11/01/2021	Q2	24.00		16.473	4.312	12.161	Good condition		7.14	12686.6	7612.0	2.43	25.0	-117.5	81.5	Black/ Grey, Medium Turbidity, Organic Odour
MW2202	13/08/2021	Q2	24.00		16.473	4.097	12.376	Good condition		7.16	12628.7	8208.7	2.90	18.4	-151.9	53.7	Black/ Grey, Medium Turbidity, Organic Odour
MW2202	01/02/2022	Q2	23.86	19 - 24	16.473	4.053	12.420	Good condition	22.3	7.25	12545.0	8154.3	0.37	21.8	-172.7	29.5	Black/ Grey, Turbid, Organic Odour
MW2202	25/07/2022	Q2	23.86	19 - 24	16.473	3.788	12.685	Good condition	22.28	7.12	7846.0	5099.0	0.99	19.4	-190.1	14.5	Black/ Grey, Slight Organic Odour, Medium Turbidity
MW2202	30/01/2023	Q2	23.86	19 - 24	16.473	3.645	12.828	Good condition	21.28	6.92	6107	3970	3.91	22	-118.9	83.1	Grey, Medium turbidity, No odour, No sheen
MW2202	10/07/2023	Q2	23.86	19 - 24	16.473	3.396	13.077	Good condition.		7.18	4007	2605	1.32	20.6	-214	-10.6	Black, medium turbidity, no odour.
MW2203	23/03/2020	Q1	7.90			4.830	11.942	gatic becoming covered with grass, stiff well cap		7.30	5415.0	3249.0	2.28	19.5	124.3	328.8	Brown Medium turbidity Slight Organic Odour
MW2203	21/07/2020	Q1	7.90		16.772	4.120	12.652	Good condition		7.78	5469.1	3281.5	5.16	18.9	69.2	274.3	Light yellow, medium turbidity, no odour
MW2203	14/01/2021	Q1	8.00		16.772	4.115	12.657	Good condition		7.66	5394.3	3236.6	2.07	22.5	70.8	272.3	Light Brown, Medium Turbidity, No odour
MW2203	13/08/2021	Q1	8.00		16.772	3.678	13.094	Good condition		7.78	3584.2	2329.7	3.70	18.9	-152.0	53.1	Clear, Low Turbidity, No odour
MW2203	31/01/2022	Q1	7.85	5 - 8	16.772	3.663	13.109	Good condition	5.9	8.60	5288.1	3437.3	2.78	26.1	-103.9	94.0	Light Brown, No odour
MW2203	25/07/2022	Q1	7.85	5 - 8	16.772	3.453	13.319	Good condition	5.90	7.54	4788.0	3112.0	0.97	19.2	-162.5	42.3	Light Brown, No odour, Low Turbidity
MW2203	30/01/2023	Q1	7.85	5 - 8	16.772	3.241	13.531	Good condition	5.90	7.33	5243	3408	5.18	23.9	46.7	246.8	Clear, Low turbidity, No odour, No sheen
MW2203	10/07/2023	Q1	7.85	5 - 8	16.772	2.898	13.874	Good condition.		8.34	1677	1090	3.97	19.7	-22.7	181.6	Clear, no turbidity, no odour.
MW2209	25/03/2020	Q2	21.80			5.741	11.334	Good condition		7.19	6508.0	3904.8	2.36	21.3	124.4	327.1	Light Grey Low turbidity Organic Odour
MW2209	21/07/2020	Q2	21.80		17.075	5.742	11.333	Good condition		7.63	7818.3	4691.0	3.76	19.6	-206.4	-2.0	Clear, low turbidity, no odour
MW2209	12/01/2021	Q2	24.00		17.075	4.760	12.315	Good condition		7.49	7834.8	4700.9	2.48	22.8	-188.9	12.3	Clear, Low to Medium Turbidity, Organic Odour
MW2209	02/08/2021	Q2	24.00		17.075	5.188	11.887	Good condition		7.54	9601.9	6241.2	3.02	17.4	-226.3	-19.7	Light Grey, Low Turbidity, Organic Odour
MW2209	01/02/2022	Q2	21.98	18.5 - 24	17.075	4.426	12.649	Good condition	19.8	7.35	8547.5	5555.9	2.83	21.4	-182.1	20.5	Light Brown, Low Turbidity, No odour
MW2209	26/07/2022	Q2	21.98	18.5 - 24	17.075	4.183	12.892	Good condition	19.80	7.26	6763.0	4395.0	0.61	18.5	-286.3	-80.8	Light Brown, Organic Odour, Low Turbidity
MW2209	31/01/2023	Q2	21.98	18.5 - 24	17.075	3.792	13.283	Good condition	19.80	7.21	7457	4847	5.07	20.6	-205.7	-2.3	Light Grey, Medium turbidity, Organic Odour, No sheen
MW2209	11/07/2023	Q2	21.98	18.5 - 24	17.075	3.403	13.672	Good Condition		7.26	6161	4005	1.02	20.5	-264.2	-60.7	Clear, Low turbidity, Organic Odour.
MW2210	25/03/2020	Q2	21.46			6.539	11.548	Good condition		10.28	6752.0	4051.2	3.28	20.7	131.4	334.7	Light Grey Low turbidity Slight Organic Odour
MW2210	21/07/2020	Q2	21.46		18.087	5.795	12.292	Good condition		11.74	6745.5	4047.3	5.61	19.8	-63.0	141.2	Clear, low turbidity, organic odour
MW2210	12/01/2021	Q2	20.40		18.087	5.875	12.212	Good condition		7.72	8844.0	5306.4	2.02	20.4	-151.3	52.3	Light Yellow, Low Turbidity, Slight Organic Odour
MW2210	02/08/2021	Q2	20.40		18.087	5.576	12.511	Good condition		7.49	7636.0	4963.4	10.83	17.1	-147.1	59.8	Clear, Low Turbidity, Organic Odour
MW2210	01/02/2022	Q2	21.58	17.1 - 20.4	18.087	5.520	12.567	Good condition	19.5	7.47	7634.9	4962.7	1.44	22.5	-168.0	33.5	Light Brown, Low Turbidity, Slight Organic Odour
MW2210	26/07/2022	Q2	21.58	17.1 - 20.4	18.087	5.276	12.811	Good condition.	19.46	12.16	4917.0	3196.0	0.99	18.6	-126.2	79.2	Light Brown, No odour, Low Turbidity. pH confirmed, WQM bump tested.
MW2210	31/01/2023	Q2	21.58	17.1 - 20.4	18.087	4.824	13.263	Good confition, ph bump tested, reading correctly	19.46	11.72	4876	3169	4.36	20.3	-204.9	-1.2	Clear, Low turbidity, No odour, No sheen
MW2210	11/07/2023	Q2	21.58	17.1 - 20.4	18.087	4.400	13.687	Good Condition		11.73	4798	3119	1.79	19.5	-298.5	-94	Clear, Low turbidity, No odour.
MW2216	24/03/2020	Q2	22.22			8.320	12.148	Good condition		7.11	6241.0	3744.6	2.32	21.1	135.5	338.4	Clear Low turbidity No odour
MW2216	21/07/2020	Q2	22.22		20.468	7.380	13.088	Good condition		7.67	6828.9	4097.3	2.68	18.9	-62.0	143.1	Clear, low turbidity, no odour
MW2216	12/01/2021	Q2	21.00		20.468	7.465	13.003	Good condition		7.16	6688.4	4013.0	2.17	23.9	-54.1	146.1	Clear, Low Turbidity, No odour
MW2216	02/08/2021	Q2	21.00		20.468	7.270	13.198	Good condition		7.21	7258.0	4717.7	5.44	18.1	90.6	296.5	Clear, Low Turbidity, No odour
MW2216	02/02/2022	Q2	21.88	18 - 21	20.468	7.130	13.338	Good condition	20.2	7.25	6875.3	4468.9	2.97	19.9	-29.3	174.8	Clear, Low Turbidity, No odour
MW2216	26/07/2022	Q2	21.88	18 - 21	20.468	6.856	13.612	Good condition	20.22	7.01	5060.0	3289.0	1.44	19.7	19.4	223.7	Clear, No odour, Low Turbidity
MW2216	31/01/2023	Q2	21.88	18 - 21	20.468	6.395	14.073	Good condition	19.22	7.07	5984	3890	4.51	22.5	49.1	250.6	Clear, turbidity, No odour, No sheen
MW2216	11/07/2023	Q2	21.88	18 - 21	20.468	5.984	14.484	Good Condition		7.08	5803	3772	1.60	19.4	-107.9	96.7	Clear, Low turbidity, No odour.
MW2218	20/03/2020	Q2	21.20			8.589	11.185	Good condition		7.43	7113.0	4267.8	2.26	21.8	83.7	285.9	Light Brown Low turbidity No odour
MW2218	21/07/2020	Q2	21.20		19.774	7.585	12.189	Good condition		7.73	7609.3	4565.6	2.81	19.9	-142.1	62.0	Clear, low turbidity, no odour
MW2218	12/01/2021	Q2	20.50		19.774	7.990	11.784	Good condition		7.67	7909.9	4745.9	2.66	22.9	-137.7	63.4	Clear, Low Turbidity, Slight Organic Odour
MW2218	02/08/2021	Q2	20.50		19.774	7.350	12.424	Good condition		7.47	7921.0	5148.7	2.42	18.7	-198.2	7.1	Clear, Low Turbidity, Organic Odour
MW2218	02/02/2022	Q2	21.26	17 - 20.5	19.774	7.539	12.235	Good condition	19.2	7.49	7631.7	4960.6	4.56	19.9	-144.7	59.4	Clear, Low Turbidity, Slight Organic Odour

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2218	26/07/2022	Q2	21.26	17 - 20.5	19.774	6.979	12.795	Good condition	19.20	7.54	6002.0	3901.0	1.06	20.8	-211.5	-8.3	Light Brown, Organic Odour, Turbidity
MW2218	31/01/2023	Q2	21.26	17 - 20.5	19.774	6.744	13.030	Good condition	19.20	7.26	6949	4517	4.77	24	26.1	226.1	Clear, Low turbidity, No odour, No sheen
MW2218	11/07/2023	Q2	21.26	17 - 20.5	19.774	6.026	13.748	Good Condition		7.55	6463	4201	2.59	19.6	64.7	269.1	Clear, Low turbidity, No odour.
MW2270	22/03/2020	Q3	39.46			7.084	11.016	tubes stuck		6.64	9666.0	5799.6	2.21	20.4	121.8	325.5	Light Grey Low turbidity No odour
MW2270	20/07/2020	Q3	39.46		18.1	6.200	11.900	Good condition		8.35	10775.3	6465.2	1.89	18.9	-128.5	76.7	Black, medium turbidity, organic odour
MW2270	11/01/2021	Q3	42.00		18.1	6.525	11.575	Good condition		7.17	10771.4	6462.8	2.12	28.5	-45.6	150.0	Brown, Medium Turbidity, Organic Odour
MW2270	02/08/2021	Q3	42.00		18.1	5.980	12.120	Good condition		6.96	10882.2	7073.4	2.45	19.0	-82.9	122.1	Light Brown, Low Turbidity, No odour
MW2270	31/01/2022	Q3	39.97	33 - 42	18.1	6.213	11.887	Good condition	37.5	6.92	10719.4	6967.6	0.10	27.9	-90.6	105.5	Light Brown, Medium Turbidity, Organic Odour
MW2270	26/07/2022	Q3	39.97	33 - 42	18.100	5.849	12.251	Good condition	37.46	7.38	8686.0	5645.0	2.20	19.5	-180.3	24.2	Black / Grey, No odour, Low Turbidity
MW2270	30/01/2023	Q3	39.97	33 - 42	18.100	5.431	12.669	Good condition	37.46	6.73	9592	6235	4.71	23.3	-25	175.7	Light Brown, Medium turbidity, No odour, No sheen
MW2270	10/07/2023	Q3	39.97	33 - 42	18.100	4.879	13.221	Good condition.		7.16	8452	5494	1.29	18.3	-191.4	14.3	Grey, low turbidity, organic odour.
MW2272	25/03/2020	Q3	42.90			10.040	6.459	Sediment on IP		10.46	8899.0	5339.4	1.99	21.6	109.7	312.1	Clear turbidity No odour
MW2272	21/07/2020	Q3	42.90		16.499	6.965	9.534	Sediment on IP		11.26	8498.0	5098.8	3.59	19.4	-212.3	-7.7	Clear, low turbidity, no odour
MW2272	12/01/2021	Q3	42.00		16.499	9.255	7.244	Good condition		12.15	9085.4	5451.2	1.86	23.7	-108.7	91.6	Clear, Low Turbidity, No odour
MW2272	02/08/2021	Q3	42.00		16.499	6.621	9.878	Good condition		12.50	9138.0	5939.7	3.09	17.9	-7.9	198.2	Clear, Low Turbidity, No odour
MW2272	31/01/2022	Q3	42.10	36 - 42	16.499	8.139	8.360	Good condition	40.9	11.91	5916.0	3845.4	2.39	27.2	-83.4	113.4	Light Grey, Medium Turbidity, No odour
MW2272	25/07/2022	Q3	42.10	36 - 42	16.499	6.152	10.347	Good condition	40.90	12.95	5693.0	3700.0	1.43	20.4	-144.9	58.7	Clear, No Turbidity, No Odour
MW2272	31/01/2023	Q3	42.10	36 - 42	16.499	7.696	8.803	Good condition	40.90	7.84	7425	4826	3.36	23.4	218.6	419.2	Clear, Medium turbidity, No odour, No sheen
MW2272	12/07/2023	Q3	42.10	36 - 42	16.499	5.146	11.353	Good Condition		11.74	6814	4429	2.48	18.9	-219.9	-14.8	Light Grey, Low turbidity, No odour.
MW2275	23/03/2020	Q3	48.12			7.835	6.286	Good condition		6.77	8398.0	5038.8	1.57	23.1	29.4	230.3	Light Brown Low turbidity Organic Odour
MW2275	20/07/2020	Q3	48.12		14.121	4.843	9.278	Good condition		7.53	9117.5	5470.5	2.62	19.9	165.3	369.4	Black, medium turbidity, organic odour
MW2275	11/01/2021	Q3	46.50		14.121	6.925	7.196	Good condition		7.69	6908.4	4145.0	3.13	23.9	-171.8	28.3	Light Brown, Medium Turbidity, No odour
MW2275	12/08/2021	Q3	46.50		14.121	4.502	9.619	Good condition		7.40	8253.0	5364.5	1.99	20.8	-142.3	60.9	Grey / Brown, Medium Turbidity, No odour
MW2275	31/01/2022	Q3	47.80	40.5 - 46.5	14.121	6.224	7.897	Good condition	46.1	7.18	8451.6	5493.5	1.93	27.8	-74.3	121.9	Light Brown, Medium Turbidity, No odour
MW2275	25/07/2022	Q3	47.80	40.5 - 46.5	14.121	4.147	9.974	Good condition	46.12	7.13	6771.0	4401.0	1.32	19.6	-68.5	135.9	Light Brown, Slight Organic Odour, Low Turbidity
MW2275	30/01/2023	Q3	47.80	40.5 - 46.5	14.121	5.668	8.453	Good condition	46.12	7.02	7552	4909	5.52	22.7	-90.6	110.7	Clear, Low turbidity, No odour, No sheen
MW2275	10/07/2023	Q3	47.80	40.5 - 46.5	14.121	3.336	10.785	Good condition.		7	7722	5019	0.90	19.8	-201.8	2.4	Clear, no turbidity, no odour.
MW2281	23/03/2020	Q3	42.34			8.171	-	Good condition		9.90	5860.0	3516.0	1.78	23.2	133.4	334.2	Clear Low turbidity No odour
MW2281	20/07/2020	Q3	42.34		15.229	5.818	9.411	Good condition		8.25	10251.7	6151.0	3.29	18.4	-186.5	19.1	Clear, low turbidity, no odour
MW2281	11/01/2021	Q3	39.00		15.229	7.455	7.774	Good condition		6.97	11750.8	7050.5	3.67	25.1	219.8	418.7	Clear, Low Turbidity, No odour
MW2281	12/08/2021	Q3	39.00		15.229	5.532	9.697	Good condition		8.06	11269.0	7324.9	1.98	21.4	12.1	214.7	Clear, Low Turbidity, No odour
MW2281	31/01/2022	Q3	39.67	35.5 - 39	15.229	6.689	8.540	Good condition	40.3	6.72	11306.3	7349.1	2.27	25.7	171.8	370.1	Clear, Low Turbidity, No odour
MW2281	25/07/2022	Q3	39.67	35.5 - 39	15.229	5.243	9.986	Good condition	40.34	7.00	8631.0	5610.0	1.24	19.6	146.8	351.2	Light Brown, No odour, Low Turbidity
MW2281	30/01/2023	Q3	39.67	35.5 - 39	15.229	6.346	8.883	Good condition	38.60	7.12	9691	6299	4.08	21.8	19.8	222	Clear, Low turbidity, No odour, No sheen
MW2281	10/07/2023	Q3	39.67	35.5 - 39	15.229	4.411	10.818	Good condition.		7.26	8780	5707	1.08	19.7	124.3	328.6	Clear, low turbidity, no odour.
MW2284	25/03/2020	Q4	60.00			10.361	6.148	Good condition		10.08	6036.0	3621.6	1.73	22.4	98.3	299.9	Light Brown Low turbidity No odour
MW2284	21/07/2020	Q4	60.00		16.509	7.120	9.389	Good condition		11.14	5681.5	3408.9	3.68	19.5	-231.4	-26.9	Clear, low turbidity, no odour
MW2284	12/01/2021	Q4	61.00		16.509	9.555	6.954	Good condition		10.25	5629.3	3377.6	2.07	26.4	-215.1	-17.5	Milky Grey, Medium Turbidity, No odour
MW2284	02/08/2021	Q4	61.00		16.509	6.729	9.780	Good condition		9.50	5730.0	3724.5	2.63	18.4	-188.4	17.2	Clear, Low Turbidity, No odour
MW2284	31/01/2022	Q4	59.90	55 - 61	16.509	8.313	8.196	Good condition	58	10.73	4924.0	3200.6	2.22	27.7	-131.1	65.3	Clear, Low Turbidity, Slight Organic Odour
MW2284	25/07/2022	Q4	59.90	55 - 61	16.509	6.243	10.266	Good condition	58.00	10.05	4263.0	2770.0	0.94	20.0	-202.3	1.7	Cloudy White, Medium Turbidity, Bleach Odour. HydraSleeve coated in white sediment
MW2284	31/01/2023	Q4	59.90	55 - 61	16.509	7.932	8.577	Good condition	58.00	7.47	5591	3634	1.76	23.8	-209	-8.8	Clear, Low turbidity, No odour, No sheen
MW2284	12/07/2023	Q4	59.90	55 - 61	16.509	5.224	11.285	Good Condition		9.86	5061	3290	1.51	20.7	-308.8	-105.5	Light Grey, Medium turbidity, No odour.
MW2285	23/03/2020	Q4	58.00			8.244	6.043	Good condition		8.07	8325.0	4995.0	1.24	22.5	-43.8	157.7	Light Brown Low turbidity Organic Odour
MW2285	20/07/2020	Q4	58.00		14.287	5.155	9.132	Good condition		7.99	7511.1	4506.7	2.90	19.7	-269.8	-65.5	Black / Grey, low turbidity, no odour
MW2285	11/01/2021	Q4	57.00		14.287	7.265	7.022	Good condition		7.78	7145.2	4287.1	2.23	24.7	-134.2	65.1	Black / Grey, Turbid, Organic Odour
MW2285	12/08/2021	Q4	57.00		14.287	4.724	9.563	Good condition		7.45	6189.5	4023.2	2.46	20.2	-155.7	48.1	Black / Grey, Medium Turbidity, Organic Odour
MW2285	31/01/2022	Q4	58.00	51 - 57	14.287	6.482	7.805	Good condition	56	7.48	6637.4	4314.3	1.26	30.6	-102.8	90.7	Black / Grey, Medium Turbidity, Organic Odour
MW2285	25/07/2022	Q4	58.00	51 - 57	14.287	4.303	9.984	Good condition	56.00	7.31	5677.0	3690.0	0.87	18.7	-161.4	43.9	Light Brown, Slight Organic Odour, Low Turbidity
MW2285	30/01/2023	Q4	58.00	51 - 57	14.287	5.966	8.321	Good condition	56.00	7.34	3902	2536	5.14	22.2	-164.9	36.9	Clear, Low turbidity, No odour, No sheen
MW2285	10/07/2023	Q4	58.00	51 - 57	14.287	3.442	10.845	Good condition.		7.34	3990	2594	1.22	20.1	-225.7	-21.8	Grey, Low turbidity, No odour.
MW2286	23/03/2020	Q4	52.55			10.995	4.850	Sediment on IP		10.76	8506.0	5103.6	3.87	26.8	114.9	312.1	Light Brown Low turbidity No odour
MW2286	20/07/2020	Q4	52.55		15.323	6.860	8.463	Sediment on IP		12.33	8824.3	5294.6	4.51	18.7	-87.5	117.8	Clear, low turbidity, no odour
MW2286	11/01/2021	Q4	57.00		15.323	10.005	5.318	Good condition		11.70	5335.2	3201.1	2.65	25.2	-123.8	75.0	Clear, Low Turbidity, No odour
MW2286	12/08/2021	Q4	57.00		15.323	6.300	9.023	Good condition		11.18	2802.6	1821.7	3.07	19.9	-274.2	-70.1	Other, Turbid, No odour
MW2286	31/01/2022	Q4	52.34	51 - 57	15.323	8.539	6.784	Good condition	50.5	10.86	3089.2	2008.0	1.54	27.5	-230.8	-34.3	Clear, Low Turbidity, No odour

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field	Redox Potential - Corrected	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV		
MW2286	25/07/2022	Q4	52.34	51 - 57	15.323	5.885	9.438	Good condition	50.55	11.41	2370.0	1540.0	2.13	19.4	-194.7	9.9	Other, No odour, Low Turbidity. White-cream sediment at bottom of sleeve
MW2286	30/01/2023	Q4	52.34	51 - 57	15.323	8.438	6.885	White sediment at bottom of sleeve	51.30	10.28	2399	1559	4.63	22.7	-24.18	177.12	Other, Medium turbidity, No odour, No sheen
MW2286	10/07/2023	Q4	52.34	51 - 57	15.323	4.714	10.609	Good condition.		10.27	2150	1398	1.57	20.1	-274.4	-70.5	Clear, Low turbidity, No odour. Hydrasleeve split on extraction, bailer sampled.
MW2325	20/03/2020	Q1	10.95			8.432	10.695	rusty standpipe, roots		6.67	8058.0	4834.8	2.09	20.9	89.3	292.4	Light Brown Low turbidity Organic Odour
MW2325	21/07/2020	Q1	10.95		19.127	7.295	11.832	Good condition		8.07	10501.7	6301.0	3.07	19.1	29.5	234.4	Clear, low turbidity, no odour
MW2325	12/01/2021	Q1	10.90		19.127	7.775	11.352	Good condition		8.79	8689.3	5213.6	2.37	24.2	-81.3	118.5	Light Brown, Medium Turbidity, Organic Odour
MW2325	02/08/2021	Q1	10.90		19.127	7.036	12.091	Good condition		7.25	10060.0	6539.0	2.84	17.3	135.7	342.4	Light Brown, Low Turbidity, No odour
MW2325	02/02/2022	Q1	10.90	7.9-10.9	19.127	7.346	11.781	Good condition	9.0	7.15	8673.2	5637.6	4.02	19.6	53.6	258.0	Light Brown, Low Turbidity, No odour
MW2325	26/07/2022	Q1	10.90	7.9-10.9	19.127	6.740	12.387	Good condition	8.95	6.89	7199.0	4679.0	2.50	18.7	-79.8	125.5	Light Brown, No odour, Low Turbidity
MW2325	31/01/2023	Q1	10.90	7.9-10.9	19.127	6.580	12.547	Good condition	8.95	7	7626	4957	5.20	21.7	65.4	267.7	Clear, Low turbidity, No odour, No sheen
MW2325	12/07/2023	Q1	10.90	7.9-10.9	19.127	5.888	13.239	Good Condition		7.03	8289	5388	0.71	19.4	-91.1	113.5	Clear, Low turbidity, No odour.
MW2358	22/03/2020	Q1	-			8.035	12.027	rusty standpipe		6.72	10257.0	6154.2	3.17	19.4	143.4	348.0	Clear turbidity No odour
MW2358	20/07/2020	Q1	-		20.062	7.840	12.222	Good condition		7.01	11306.4	6783.8	3.96	18.8	-144.9	60.4	Clear, low turbidity, no odour
MW2358	11/01/2021	Q1	11.01		20.062	7.665	12.397	Good condition		6.93	11053.2	6631.9	3.28	25.4	-34.4	164.2	Brown, Medium Turbidity, No odour
MW2358	12/08/2021	Q1	11.01		20.062	7.796	12.266	Good condition		7.01	11066.1	7193.0	2.70	18.2	-111.4	94.4	Light Brown, Low Turbidity, No odour
MW2358	01/02/2022	Q1	11.03	8.01 - 11.01	20.062	7.535	12.527	Good condition	9	6.95	11156.9	7252.0	2.98	21.2	-43.3	159.6	Light Brown, Medium Turbidity, No odour
MW2358	25/07/2022	Q1	11.03	8.01 - 11.01	20.062	7.394	12.668	Good condition	9.00	7.06	8720.0	5668.0	2.48	19.4	-97.2	107.4	Black/ Grey, No odour, Medium Turbidity
MW2358	30/01/2023	Q1	11.03	8.01 - 11.01	20.062	6.969	13.093	Good condition	9.00	6.74	9613	6248	4.71	21.9	-63.9	138.2	Clear, Low turbidity, No odour, No sheen
MW2358	10/07/2023	Q1	11.03	8.01 - 11.01	20.062	6.901	13.161	Good condition.		7.07	9725	6321	2.73	20	-148.9	55.1	Clear, low turbidity, no odour.
MW2394	22/03/2020	Q1	11.83			6.899	11.889	Sediment on IP, well completely covered in grass		6.81	12320.0	7392.0	2.73	20.9	152.3	355.4	Light Brown Low turbidity No odour
MW2394	20/07/2020	Q1	11.83		18.788	6.755	12.033	Good condition		7.20	13528.5	8117.1	3.06	19.5	-150.0	54.5	Black, medium turbidity, organic odour
MW2394	11/01/2021	Q1	11.74		18.788	6.555	12.233	Good condition		6.73	13634.9	8180.9	1.74	26.5	-99.6	97.9	Brown, Medium Turbidity, No odour
MW2394	12/08/2021	Q1	11.74		18.788	6.692	12.096	Good condition		7.34	13361.9	8685.2	1.91	19.1	-227.5	-22.6	Black, Turbid, Organic Odour
MW2394	01/02/2022	Q1	11.71	8.74 - 11.74	18.788	6.439	12.349	Good condition	9.8	7.34	13483.0	8764.0	1.58	21.5	-250.3	-47.8	Black, Turbid, Organic Odour
MW2394	25/07/2022	Q1	11.71	8.74 - 11.74	18.788	6.306	12.482	Good condition	9.83	7.21	10480.0	6812.0	0.63	18.9	-266.1	-61.0	Black, Slight Organic Odour, Turbid Turbidity
MW2394	30/01/2023	Q1	11.71	8.74 - 11.74	18.788	5.850	12.938	Good condition	9.83	6.89	11463	7451	5.44	21.9	-177.3	24.8	Clear, Low turbidity, Organic Odour, No sheen
MW2394	10/07/2023	Q1	11.71	8.74 - 11.74	18.788	5.798	12.990	Good condition.		6.9	11681	7593	0.72	20.1	-250.7	-46.8	Black, medium turbidity, organic odour.
MW2411	22/03/2020	Q1	11.47			6.754	11.964	Good condition		6.85	7017.0	4210.2	1.75	20.6	137.0	340.4	Clear Low turbidity No odour
MW2411	20/07/2020	Q1	11.47		18.718	6.585	12.133	Good condition		7.26	9346.4	5607.8	3.59	19.0	-260.7	-55.7	Clear, low turbidity, organic odour
MW2411	11/01/2021	Q1	10.42		18.718	6.400	12.318	Good condition		7.02	12029.2	7217.5	2.05	25.1	-222.0	-23.1	Clear, Low to Medium Turbidity, Organic Odour
MW2411	12/08/2021	Q1	10.42		18.718	6.522	12.196	Good condition		7.30	11098.9	7214.3	3.26	18.3	-225.4	-19.7	Black/ Grey, Medium Turbidity, Organic Odour
MW2411	01/02/2022	Q1	11.40	7.42 - 10.42	18.718	6.260	12.458	Good condition	9.5	7.20	11100.0	7215.0	1.22	20.7	-228.0	-24.7	Light Grey, Low Turbidity, Organic Odour
MW2411	25/07/2022	Q1	11.40	7.42 - 10.42	18.718	6.135	12.583	Good condition	9.47	7.07	9730.0	6324.0	0.75	19.7	-242.4	-38.1	Black/ Grey, Organic Odour, Medium Turbidity
MW2411	30/01/2023	Q1	11.40	7.42 - 10.42	18.718	5.691	13.027	Good condition	8.47	6.98	10713	6963	1.66	21.4	-154.9	47.7	Light Grey, Low turbidity, Organic Odour, No sheen
MW2411	17/10/2023	Q1	11.40	7.42 - 10.42	19.735	6.526	13.209	Good condition.	8.47	7.05	11025	7166.25	1.25	21.5	-213.1	-10.6	Light Grey, Low turbidity, Organic Odour - Monument erected due to resurfacing, survey data updated
MW2490	24/03/2020	Q1	8.47			6.297	11.283	Good condition		7.34	6186.0	3711.6	2.74	20.3	163.1	366.8	Brown Medium turbidity No odour
MW2490	21/07/2020	Q1	8.47		17.58	5.380	12.200	Good condition		7.81	6992.1	4195.3	3.46	19.9	-8.7	195.4	Light yellow, medium turbidity, no odour
MW2490	12/01/2021	Q1	0.00		17.58	5.518	12.062	Good condition		7.62	7401.2	4440.7	3.66	22.2	-35.0	166.8	Light Brown, Low Turbidity, No odour
MW2490	02/08/2021	Q1	8.47		17.58	4.830	12.750	Good condition		7.49	6774.5	4403.4	4.39	16.2	76.9	284.7	Light Brown, Medium Turbidity, No odour
MW2490	01/02/2022	Q1	8.53	4.6 - 7.6	17.58	5.137	12.443	Good condition	6.5	7.69	6238.4	4055.0	3.22	22.6	1.8	203.2	Light Brown, Medium Turbidity, No odour
MW2490	26/07/2022	Q1	8.53	4.6 - 7.6	17.580	4.816	12.764	Good condition	6.47	7.55	4255.0	2765.0	1.82	19.2	9.1	213.9	Light Brown, No odour, Low Turbidity
MW2490	31/01/2023	Q1	8.53	4.6 - 7.6	17.580	4.905	12.675	Good condition	6.47	7.79	3343	2173	3.39	20.5	129.5	333	Clear, Low turbidity, No odour, No sheen
MW2490	11/07/2023	Q1	8.53	4.6 - 7.6	17.580	4.450	13.130	Good Condition		7.51	7603	4942	1.19	20.3	-151	52.7	Light Brown, Low turbidity, No odour.
MW2499	23/03/2020	Q1	9.06			5.227	10.542	Sediment on IP		7.08	1474.0	884.4	2.65	20.9	121.7	324.8	Light Brown Low turbidity No odour
MW2499	21/07/2020	Q1	9.06		15.769	4.202	11.567	Sediment on IP		8.47	1432.4	859.4	7.83	19.5	19.8	224.3	Light yellow, low turbidity, no odour
MW2499	14/01/2021	Q1	9.06		#N/A	4.435	11.334	Good condition		8.43	-	-	6.00	22.5	69.8	271.3	Light Brown, Low to Medium Turbidity, No odour. EC field transcription error.
MW2499	12/08/2021	Q1	9.06		15.769	3.750	12.019	Good condition		8.11	1556.8	1011.9	7.57	17.9	8.7	214.8	Light Brown, Low Turbidity, No odour
MW2499	01/02/2022	Q1	7.92	6.06 - 9.06	15.769	4.046	11.723	Good condition	7.1	8.44	1446.7	940.4	7.06	21.2	-55.9	146.9	Light Brown, Medium Turbidity, No odour
MW2499	26/07/2022	Q1	7.92	6.06 - 9.06	15.769	3.815	11.954	Good condition	7.06	8.39	1478.0	960.0	5.30	18.5	-1.1	204.4	Clear, No odour, Low Turbidity
MW2499	1/02/2023	Q1	7.92	6.06 - 9.06	15.769	2.996	12.773	Good condition	7.06	8.16	1958	1273	5.64	21.5	20.7	223.2	Clear, Low turbidity, No odour, No sheen
MW2499	7/07/2023	Q1	7.92	6.06 - 9.06	15.769	2.525	13.244	Good condition.		7.79	1614	1049	4.10	18.3	-44.1	161.6	Clear, Low turbidity, No odour.
MW2501	20/03/2020	Q1	10.62			3.751	11.922	Sediment on IP		7.15	5982.0	3589.2	2.13	21.0	72.5	275.5	Light Brown turbidity No odour
MW2501	23/07/2020	Q1	10.62		15.673	3.240	12.433	Sediment on IP		8.62	5382.0	3229.2	4.32	19.5	-93.5	111.0	Light yellow, medium turbidity, no odour
MW2501	14/01/2021	Q1	10..61		15.673	3.940	11.733	Good condition		7.59	4736.7	2842.0	2.34	21.9	-9.8	192.3	Black/ Grey, Medium Turbidity, Slight Organic Odour
MW2501	02/08/2021	Q1	10.61		15.673	2.970	12.703	Good condition		7.93	4338.1	2819.8	1.90	17.0	126.2	333.2	Light Brown, Low Turbidity, No odour
MW2501	02/02/2022	Q1	10.75	7.61 - 10.61	15.673	3.516	12.157	Good condition	8.6	7.67	4250.2	2762.6	2.38	18.9	31.0	236.1	Light Brown, Medium Turbidity, No odour
MW2501	26/07/2022	Q1	10.75	7.61 - 10.61	15.673	3.114	12.559	Good condition	8.62	7.79	3273.0	2127.0	1.45	19.5	-159.5	45.0	Light Brown, No odour, Low Turbidity
MW2501	31/01/2023	Q1	10.75	7.61 - 10.61	15.673	3.296	12.377	Good condition	8.62	7.61	3825	2486	5.76	21.5	12.1	214.6	Orange, Medium turbidity, No odour, No sheen

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW2501	11/07/2023	Q1	10.75	7.61 - 10.61	15.673	2.451	13.222	Good Condition		7.67	3370	2191	0.62	19.2	-299.3	-94.5	Clear, Low turbidity, Organic Odour.
MW2528	25/03/2020	Q1	9.18			5.485	11.696	Gatic and bentonite need replacing		7.64	2429.0	1457.4	2.86	20.5	115.9	319.4	Clear Low turbidity Slight Organic Odour
MW2528	21/07/2020	Q1	9.18		17.181	5.775	11.406	Good condition		8.37	2665.2	1599.1	5.22	19.1	-76.8	128.1	Clear, low turbidity, no odour
MW2528	12/01/2021	Q1	9.06		17.181	4.798	12.383	Good condition		7.95	2764.7	1658.8	1.99	22.0	-21.3	180.7	Clear, Low Turbidity, No odour
MW2528	02/08/2021	Q1	9.06		17.181	4.540	12.641	Good condition		7.88	2976.0	1934.4	3.50	18.2	-86.9	118.9	Grey, Low Turbidity, Organic Odour
MW2528	01/02/2022	Q1	9.00	6.06 - 9.06	17.181	4.460	12.721	Good condition	7.2	7.86	2718.6	1767.1	3.62	19.8	-127.5	76.7	Clear, Low Turbidity, Slight Organic Odour
MW2528	26/07/2022	Q1	9.00	6.06 - 9.06	17.181	4.219	12.962	Good condition	7.18	7.81	2078.0	1350.0	1.63	18.6	-220.6	-15.2	Light Brown, Slight Organic Odour, Low Turbidity
MW2528	31/01/2023	Q1	9.00	6.06 - 9.06	17.181	4.832	12.349	Good condition	7.18	7.79	2278	1481	4.39	20.3	-141	62.7	Clear, Low turbidity, No odour, No sheen
MW2528	11/07/2023	Q1	9.00	6.06 - 9.06	17.181	3.444	13.737	Good Condition		7.8	1832	1191	2.29	20.1	-187.3	16.6	Clear, Low turbidity, Slight Organic Odour.
MW4001	25/03/2020	Q1	9.67			5.267	7.642	Good condition		8.10	1514.0	908.4	1.45	22.8	67.1	268.3	Yellow / Brown Low turbidity Compost odour
MW4001	22/07/2020	Q1	9.67		12.909	3.210	9.699	Good condition		9.04	1701.3	1020.8	5.25	18.6	-119.7	85.7	Brown, medium turbidity, no odour
MW4001	13/01/2021	Q1	9.56		12.909	4.670	8.239	Good condition		8.29	1092.4	655.4	3.12	27.3	-46.1	150.6	Light Brown, Low to Medium Turbidity, No odour
MW4001	06/08/2021	Q1	9.56		12.909	2.835	10.074	Good condition		8.63	1682.0	1093.3	5.51	19.2	27.7	232.5	Light Brown, Medium Turbidity, No odour
MW4001	04/02/2022	Q1	9.55	6.56 - 9.56	12.909	3.395	9.514	Good condition	7.7	-	1532.6	996.2	3.36	19.1	-38.0	166.9	Clear, Low Turbidity, No odour. pH transcription error.
MW4001	25/07/2022	Q1	9.55	6.56 - 9.56	12.909	2.904	10.005	Good condition	7.67	8.45	1194.0	776.0	2.84	18.2	-104.8	101.0	Light Brown, Low Turbidity, Slight Organic Odour
MW4001	16/02/2023	Q1	9.55	6.56 - 9.56	12.909	4.035	8.874	Good condition	7.67	8.22	1269	825	1.47	19.7	-69.7	134.6	Clear, Low turbidity, No odour, No sheen
MW4001	10/07/2023	Q1	9.55	6.56 - 9.56	12.909	2.224	10.685	Good condition.		8.2	1569	1020	3.49	18.7	-47.4	157.9	Orange/brown, low to medium turbidity, no odour.
MW4003	20/03/2020	Q1	7.82			2.857	10.603	Sediment on IP		7.03	7234.0	4340.4	2.31	22.8	47.8	249.0	Clear turbidity No odour
MW4003	23/07/2020	Q1	7.82		13.46	2.070	11.390	Sediment on IP		8.10	7858.9	4715.3	3.93	19.2	57.8	262.7	Clear, low turbidity, no odour
MW4003	13/01/2021	Q1	7.63		13.46	2.285	11.175	Good condition		7.82	7864.6	4718.8	2.20	22.9	-44.0	157.1	Clear, Low to Medium Turbidity, No odour
MW4003	05/08/2021	Q1	7.63		13.46	1.563	11.897	Good condition		8.55	7954.6	5170.5	5.86	18.6	17.1	222.5	Grey / Brown, Medium Turbidity, No odour
MW4003	03/02/2022	Q1	7.83	4.63 - 7.63	13.46	1.996	11.464	Good condition	5.8	7.80	7794.9	5066.7	2.51	21.6	-20.5	181.9	Light Brown, Low Turbidity, Slight Organic Odour
MW4003	28/07/2022	Q1	7.83	4.63 - 7.63	13.460	1.770	11.690	Good condition	5.82	7.66	5900.0	3835.0	1.96	18.8	-115.5	89.7	Light Brown, No odour, Low Turbidity
MW4003	1/02/2023	Q1	7.83	4.63 - 7.63	13.460	1.619	11.841	Good condition	5.82	7.55	6349	4127	2.36	20.5	-59.1	144.4	Clear, Low turbidity, No odour, No sheen
MW4003	12/07/2023	Q1	7.83	4.63 - 7.63	13.460	0.988	12.472	Good Condition		7.51	6514	4234	1.79	19.7	35.9	240.2	Clear, Low turbidity, No odour.
MW4006	19/03/2020	Q1	7.26			3.225	-	Good condition		Gauged only							
MW4006	23/07/2020	Q1	7.26		13.283	2.545	10.738	Good condition		Gauged only							
MW4006	13/01/2021	Q1	7.25		13.283	2.715	10.568	Good condition		Gauged only							
MW4006	04/08/2021	Q1	7.25		13.283	2.032	11.251	Good condition		Gauged only							
MW4006	03/02/2022	Q1	7.25	4.25 - 7.25	13.283	2.387	10.896	Good condition	5.3	Gauged only							
MW4006	25/07/2022	Q1	7.25	4.25 - 7.25	13.283	2.118	11.165	Good condition	5.26	Gauged only							
MW4006	16/02/2023	Q1	7.25	4.25 - 7.25	13.283	2.245	11.038	Good condition	-	Gauged only							
MW4006	12/07/2023	Q1	7.25	4.25 - 7.25	13.283	1.662	11.621	Good condition.		Gauged only							
MW4009	19/03/2020	Q1	8.81			4.377	9.993	Sediment on IP, gatic covered with grass.		6.81	7682.0	4609.2	1.73	21.0	33.2	236.2	Light Brown Low turbidity dirt/sediment odour
MW4009	22/07/2020	Q1	8.81		14.37	3.890	10.480	Good condition		7.26	8251.2	4950.7	5.19	18.5	-133.6	71.9	Black, low turbidity, organic odour
MW4009	12/01/2021	Q1	9.50		14.37	3.945	10.425	Good condition		7.21	8611.2	5166.7	3.03	23.7	1.9	202.2	Light Brown, Medium Turbidity, No odour
MW4009	02/08/2021	Q1	9.50		14.37	3.794	10.576	Good condition		7.51	9059.0	5888.4	7.57	16.0	5.5	213.5	Light Brown, Low Turbidity, No odour
MW4009	02/02/2022	Q1	21.80	6.5 - 9.5	14.37	3.760	10.610	Good condition	6.8	7.24	6647.8	4321.1	3.27	22.2	-50.0	151.8	Brown, Turbid, No odour
MW4009	27/07/2022	Q1	21.80	6.5 - 9.5	14.370	3.445	10.925	Good condition	6.81	7.21	6578.0	4275.0	2.76	19.8	-111.7	92.5	Light Brown, No odour, Low Turbidity
MW4009	1/02/2023	Q1	21.80	6.5 - 9.5	14.370	3.181	11.189	Good condition	6.81	7.1	7372	4792	2.31	20.3	-31	172.7	Clear, Low turbidity, , No sheen
MW4009	11/07/2023	Q1	21.80	6.5 - 9.5	14.370	2.945	11.425	Good Condition		7.28	7506	4879	4.09	20.1	-12.9	191	Clear, Low turbidity, No odour.
MW4011	20/03/2020	Q1	-			-	-	Lost/destroyed		Lost/destroyed							
MW4011	-	Q1	10.26		22.542	-	-	Lost/destroyed		Destroyed							
MW4013	25/03/2020	Q1	4.63			2.403	10.720	Good condition		7.25	1968.0	1180.8	4.74	24.2	49.9	249.7	Clear Low turbidity No odour
MW4013	23/07/2020	Q1	4.63		13.123	0.580	12.543	Good condition		8.41	2490.0	1494.0	6.80	17.2	-17.9	189.0	Clear, low turbidity, no odour
MW4013	13/01/2021	Q1	6.95		13.123	1.645	11.478	Good condition		8.53	2356.3	1413.8	2.61	24.4	-77.0	122.6	Light Brown, Low Turbidity, No odour
MW4013	06/08/2021	Q1	6.95		13.123	0.006	13.117	Good condition		8.12	2258.0	1467.7	5.48	14.6	117.0	326.4	Light Brown, Low Turbidity, No odour
MW4013	04/02/2022	Q1	5.00	3.95 - 6.95	13.123	0.750	12.373	Good condition	2.6	8.07	3028.9	1968.8	3.79	20.0	4.6	208.6	Clear, Low Turbidity, No odour
MW4013	27/07/2022	Q1	5.00	3.95 - 6.95	13.123	0.352	12.771	Good condition	2.63	7.89	1873.0	1217.0	4.60	14.9	56.8	265.9	Light Brown, No odour, Low Turbidity
MW4013	16/02/2023	Q1	5.00	3.95 - 6.95	13.123	0.829	12.294	Good condition	3.00	7.96	1887	1227	2.81	26.8	3.7	200.9	Clear, Low turbidity, No odour, No sheen
MW4013	12/07/2023	Q1	5.00	3.95 - 6.95	13.123	0.030	13.093	Good Condition		7.89	5764	3747	1.81	19.3	-70.2	134.5	Light Brown, Low turbidity, No odour.
MW4015	20/03/2020	Q1	6.90			3.035	10.592	traffic control required		6.35	3526.0	2115.6	3.30	19.6	80.2	284.6	Light Brown Low turbidity No odour
MW4015	23/07/2020	Q1	6.90		13.627	2.245	11.382	Good condition		8.42	3943.0	2365.8	4.59	18.9	-8.5	196.6	Brown, medium turbidity, no odour
MW4015	14/01/2021	Q1	6.96		13.627	2.395	11.232	Good condition		7.78	4124.0	2474.4	2.50	20.4	70.1	273.7	Brown, Medium Turbidity, No odour
MW4015	05/08/2021	Q1	6.96		13.627	1.534	12.093	Good condition		7.96	4306.1	2799.0	6.09	17.1	158.6	365.5	Light Brown, Medium Turbidity, No odour
MW4015	03/02/2022	Q1	7.00	3.96 - 6.96	13.627	2.125	11.502	Good condition	4.9	8.45	4065.0	2642.3	2.77	21.9	-84.9	117.3	Clear, Low Turbidity, No odour
MW4015	28/07/2022	Q1	7.00	3.96 - 6.96	13.627	4.954	8.673	Good condition	4.90	7.71	3298.0	2143.0	2.19	17.6	-43.6	162.8	Orange / Brown, No odour, Turbid Turbidity
MW4015	15/02/2023	Q1	7.00	3.96 - 6.96	13.627	2.864	10.763	Good condition	4.90	7.67	4191	2724	1.72	23.7	84.9	285.2	Orange / Brown, High turbidity, No odour, No sheen
MW4015	13/07/2023	Q1	7.00	3.96 - 6.96	13.627	1.174	12.453	Good Condition		7.74	3960	2574	2.11	17.1	-67.1	139.8	Orange, Medium turbidity, No odour.
MW4020	20/03/2020	Q1	8.35			4.095	9.875	Sediment on IP		6.84	5370.0	3222.0	4.69	20.6	33.0	236.4	Light Brown Low turbidity No odour
MW4020	22/07/2020	Q1	8.35		13.97	3.655	10.315	Sediment on IP		7.50	6386.0	3831.6	6.04	18.4	5.8	211.4	Clear, low turbidity, no odour
MW4020	12/01/2021	Q1	8.40		13.97	3.615	10.355	Good condition		7.18	6487.3	3892.4	5.28	23.0	8.0	209.0	Light Yellow, Low Turbidity, Slight Organic Odour
MW4020	03/08/2021	Q1	8.40		13.97	3.504	10.466	Good condition		6.98	6596.1	4287.5	7.81	16.7	152.6	359.9	Light Brown, , No odour

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field	Redox Potential - Corrected	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV		
MW4020	02/02/2022	Q1	8.27	5.4 - 8.4	13.97	3.354	10.616	Good condition	6.4	7.25	6424.6	4176.0	5.82	21.9	38.7	240.8	Clear, Low Turbidity, No odour
MW4020	27/07/2022	Q1	8.27	5.4 - 8.4	13.970	3.013	10.957	Good condition	6.35	7.21	5042.0	3277.0	4.25	18.4	24.4	230.0	Light Brown, No odour, Low Turbidity
MW4020	1/02/2023	Q1	8.27	5.4 - 8.4	13.970	3.828	10.142	Good condition	6.35	7.2	5727	3723	3.64	20.9	17.2	220.3	Clear, Low turbidity, No odour, No sheen
MW4020	11/07/2023	Q1	8.27	5.4 - 8.4	13.970	2.573	11.397	Good Condition		7.35	5683	3694	4.34	19.5	4.8	209.3	Clear, Low turbidity, No odour.
MW4021	19/03/2020	Q2	18.05			3.980	9.717	Sediment on IP, gatic covered in dirt		6.70	4852.0	2911.2	3.60	21.2	39.7	242.6	Light Brown Low turbidity No odour
MW4021	22/07/2020	Q2	18.05		13.697	3.505	10.192	Good condition		7.41	6476.6	3886.0	4.16	18.2	10.6	216.4	Clear, low turbidity, organic odour
MW4021	12/01/2021	Q2	18.00		13.697	3.460	10.237	Good condition		7.15	6433.8	3860.3	3.20	22.7	27.3	228.6	Clear, Low Turbidity, No odour
MW4021	03/08/2021	Q2	18.00		13.697	3.325	10.372	Good condition		6.32	6610.0	4296.5	2.96	16.6	159.9	367.3	Light Brown, Low Turbidity, No odour
MW4021	02/02/2022	Q2	17.85	15 - 18	13.697	3.188	10.509	Good condition	16.1	7.16	6258.9	4068.3	2.39	21.9	-23.4	178.7	Light Brown, Medium Turbidity, No odour
MW4021	27/07/2022	Q2	17.85	15 - 18	13.697	2.871	10.826	Good condition	16.05	7.17	4936.0	3208.0	2.45	18.7	-1.6	203.7	Light Brown, No odour, Low Turbidity
MW4021	15/02/2023	Q2	17.85	15 - 18	13.697	2.763	10.934	Good condition	16.05	7.09	5609	3645.85	2.12	22.3	95.5	297.2	Clear, Low turbidity, No odour, No sheen
MW4021	11/07/2023	Q2	17.85	15 - 18	13.697	2.440	11.257	Good Condition		6.97	5582	3628.3	2.07	20.3	-91.6	112.1	Clear, Low turbidity, No odour.
MW4022	20/03/2020	Q2	21.80			4.435	9.988	Sediment on IP		6.79	6079.0	3647.4	2.55	21.0	26.0	229.0	Light Brown Low turbidity dirt/sediment odour
MW4022	22/07/2020	Q2	21.80		14.423	3.955	10.468	Sediment on IP		7.88	5892.1	3535.26	3.11	19.38	-174.7	29.92	Black, medium turbidity, organic odour
MW4022	12/01/2021	Q2	22.50		14.423	3.980	10.443	Good condition		7.23	6815.4	4089.24	2.87	23.56	-83.4	117.04	Black, Medium Turbidity, Organic Odour
MW4022	02/08/2021	Q2	22.50		14.423	3.816	10.607	Good condition		7.46	6909.8	4491.4	3.09	16.1	-126.1	81.8	Black, Organic Odour
MW4022	02/02/2022	Q2	8.80	19 - 22.5	14.423	3.718	10.705	Good condition	19.8	7.29	8470.3	5505.695	4.14	22.41	10.8	212.39	Light Brown, Low Turbidity, No odour
MW4022	27/07/2022	Q2	8.80	19 - 22.5	14.423	3.409	11.014	Good condition	19.80	7.42	3709.0	2410.0	.86	19.0	-221.9	-16.9	Black/ Grey, Slight Organic Odour, Medium Turbidity
MW4022	1/02/2023	Q2	21.80	19 - 22.5	14.423	3.193	11.230	Good condition	19.80	7.31	4.778	3	2.11	20.80	-163.5	39.7	Brown, Medium turbidity, No odour, No sheen
MW4022	11/07/2023	Q2	21.80	19 - 22.5	14.423	2.962	11.461	Good Condition		7.32	3607	2345	1.11	20.2	-256.20	-52.40	Clear, Low turbidity, No odour.
MW4023	20/03/2020	Q1	7.90			3.345	8.510	Sediment on IP		6.69	25730.0	15438.0	2.07	21.32	20.7	223.38	Brown Low turbidity No odour
MW4023	22/07/2020	Q1	7.90		11.855	2.885	8.970	Sediment on IP		7.16	28706.0	17223.6	3.82	17.8	-128.1	78.1	Light brown, low turbidity, organic odour
MW4023	12/01/2021	Q1	8.00		11.855	2.850	9.005	Good condition		7.13	30855.3	18513.2	1.30	23.0	-53.2	147.8	Brown, Medium Turbidity, Slight Organic Odour
MW4023	03/08/2021	Q1	8.00		11.855	2.917	8.938	Good condition		7.46	31356.0	20381.4	4.39	15.7	-4.8	203.5	Brown, Medium Turbidity, No odour
MW4023	02/02/2022	Q1	8.00	5 - 8	11.855	2.819	9.036	Good condition	5.9	7.15	28683.2	18644.1	3.00	19.8	3.0	207.2	Light Brown, Medium Turbidity, No odour
MW4023	27/07/2022	Q1	8.00	5 - 8	11.855	2.264	9.591	Good condition	5.90	7.04	21877.0	14220.0	0.81	18.3	-114.1	91.6	Light Brown, No odour, Medium Turbidity
MW4023	16/02/2023	Q1	8.00	5 - 8	11.855	2.092	9.763	Good condition	5.90	7.01	24227	15748	1.14	24.4	12.9	212.5	Orange / Brown, Medium turbidity, No odour, No sheen
MW4023	10/07/2023	Q1	8.00	5 - 8	11.855	1.657	10.198	Good condition.		6.92	20357	13232	3.94	18.9	-14.6	190.5	Black, suspended sediments, medium turbidity, organic odour.
MW4024	26/03/2020	Q2	18.30			3.268	8.627	Sediment on IP		6.89	21806.0	13083.6	4.1	21.1	-21.8	181.1	Clear Low turbidity No odour
MW4024	22/07/2020	Q2	18.30		11.895	2.913	8.982	Sediment on IP		7.18	24653.3	14791.98	3.55	18.71	-55.2	150.09	Clear, low turbidity, no odour
MW4024	12/01/2021	Q2	21.00		11.895	2.905	8.990	Good condition		7.42	24183.1	14509.9	4.44	22.8	-79.2	122.0	Light Brown, Low to Medium Turbidity, No odour
MW4024	03/08/2021	Q2	21.00		11.895	3.034	8.861	Good condition		7.46	25287.0	16436.55	4.47	17.27	-147.4	59.33	Clear, No odour
MW4024	02/02/2022	Q2	15.78	15 - 21	11.895	2.851	9.044	Good condition	16.3	7.39	24353.2	15829.6	5.63	20.9	-65.8	137.3	Light Brown, Low Turbidity, No odour
MW4024	27/07/2022	Q2	15.78	15 - 21	11.895	2.292	9.603	Good condition	16.30	7.15	19934.0	12957.0	1.05	18.2	-189.7	16.1	Light Brown, No odour, Medium Turbidity
MW4024	16/02/2023	Q2	17.78	15 - 21	11.895	2.145	9.750	Good condition	16.30	7.53	21808	14175.2	3.23	22.8	1.5	202.7	Clear, Low turbidity, No odour, No sheen
MW4027	10/07/2023	Q2	7.89	5 - 8	11.895	1.690	10.205	Good condition,.	16.30	7.31	18380	11947	5.14	18.5	-59.1	146.4	Colourless, low turbidity, slight organic odour
MW4027	26/03/2020	Q1	7.97			2.160	7.372	Sediment on IP		6.37	225.0	135.0	3.60	19.0	79.3	284.3	Clear turbidity No odour
MW4027	23/07/2020	Q1	7.97		9.532	1.705	7.827	Sediment on IP		7.91	474.8	284.9	2.65	18.5	-145.0	60.6	Black, low turbidity, organic odour
MW4027	13/01/2021	Q1	8.00		9.532	1.745	7.787	Good condition		7.55	633.8	380.3	2.48	21.0	-158.4	44.6	Black, Medium Turbidity, Organic Odour
MW4027	03/08/2021	Q1	8.00		9.532	-	-	Could not access		Could not access - submerged in water						224	
MW4027	02/02/2022	Q1	7.89	5 - 8	9.532	1.409	8.123	Good condition	6.0	7.99	1081.2	702.8	1.84	20.6	-76.3	127.1	Grey / Brown, Turbid, No odour
MW4027	27/07/2022	Q1	7.89	5 - 8	9.532	0.923	8.609	Top of casing flooded	5.97	7.88	900.0	585.0	3.45	17.2	-117.7	89.1	Black/ Grey, No odour, Medium Turbidity
MW4027	15/02/2023	Q1	7.89	5 - 8	9.532	1.082	8.450	Good condition	5.97	7.16	450.2	293	1.61	22.9	-222.8	-21.7	Clear, Low turbidity, No odour, No sheen
MW4027	27/10/2023	Q1	7.89	5 - 8	9.532	1.046	8.486	Good condition,.	5.97	6.86	3179	2066.35	5.34	19.5	-6	198.5	Clear, Low turbidity, No odour
MW4028	26/03/2020	Q1	-			-	-	Could not access		Could not access - bolts rounded							
MW4028	23/07/2020	Q1	-		10.396	2.335	8.061	Good condition		Gauged only							
MW4028	13/01/2021	Q1	8.00		10.396	2.158	8.238	Good condition		Gauged only							
MW4028	03/08/2021	Q1	8.00		10.396	2.190	8.206	Good condition		Gauged only							
MW4028	03/02/2022	Q1	7.92	5 - 8	10.396	2.242	8.154	Good condition	6	Gauged only							
MW4028	25/07/2022	Q1	7.92	5 - 8	10.396	1.741	8.655	Good condition	6.00	Gauged only							
MW4028	1/02/2023	Q1	7.92	5 - 8	10.396	1.742	8.654	Damaged gatic	-	Gauged only							
MW4028	12/07/2023	Q1	7.92	5 - 8	10.396	1.332	9.064	Good condition.		Gauged only							
MW4029	19/03/2020	Q1	8.43			3.740	8.176	Good condition		Gauged only							
MW4029	23/07/2020	Q1	8.43		11.916	3.243	8.673	Good condition		Gauged only							
MW4029	13/01/2021	Q1	8.50		11.916	3.255	8.661	Good condition		Gauged only							
MW4029	03/08/2021	Q1	8.50		11.916	3.022	8.894	Good condition		Gauged only							

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW4029	03/02/2022	Q1	8.41	5.5 - 8.5	11.916	3.125	8.791	Good condition	6.4	Gauged only							
MW4029	25/07/2022	Q1	8.41	5.5 - 8.5	11.916	2.802	9.114	Good condition	6.43	Gauged only							
MW4029	15/02/2023	Q1	8.41	5.5 - 8.5	11.916	2.835	9.081	Good condition	-	Gauged only							
MW4029	13/07/2023	Q1	8.41	5.5 - 8.5	11.916	2.434	9.482	Good condition.		Gauged only							
MW4030	20/03/2020	Q1	8.36			2.815	8.940	Good condition		Gauged only							
MW4030	23/07/2020	Q1	8.36		11.755	2.365	9.390	Good condition		Gauged only							
MW4030	13/01/2021	Q1	8.50		11.755	2.475	9.280	Good condition		Gauged only							
MW4030	03/08/2021	Q1	8.50		11.755	2.022	9.733	Good condition		Gauged only							
MW4030	03/02/2022	Q1	8.37	5.3 - 8.5	11.755	2.221	9.534	Good condition	6.4	Gauged only							
MW4030	25/07/2022	Q1	8.37	5.3 - 8.5	11.755	2.235	9.520	Good condition	6.36	Gauged only							
MW4030	16/02/2023	Q1	8.37	5.3 - 8.5	11.755	2.272	9.483	Good condition	-	Gauged only							
MW4030	12/07/2023	Q1	8.37	5.3 - 8.5	11.755	1.925	9.830	Good condition.		Gauged only							
MW4031	19/03/2020	Q2	23.10			3.695	8.136	Good condition		Gauged only							
MW4031	23/07/2020	Q2	23.10		11.831	3.255	8.576	Good condition		Gauged only							
MW4031	13/01/2021	Q2	24.00		11.831	3.215	8.616	Good condition		Gauged only							
MW4031	03/08/2021	Q2	24.00		11.831	3.076	8.755	Good condition		Gauged only							
MW4031	03/02/2022	Q2	23.12	21 - 24	11.831	3.111	8.720	Good condition	21.1	Gauged only							
MW4031	25/07/2022	Q2	23.12	21 - 24	11.831	2.766	9.065	Good condition	21.10	Gauged only							
MW4031	15/02/2023	Q2	23.12	21 - 24	11.831	2.818	9.013	Good condition	-	Gauged only							
MW4031	13/07/2023	Q2	23.12	21 - 24	11.831	2.520	9.311	Good condition.		Gauged only							
MW4032	19/03/2020	Q2	19.47			4.193	8.755	Sediment on IP		Gauged only							
MW4032	22/07/2020	Q2	19.47		12.948	3.105	9.843	Sediment on IP		Gauged only							
MW4032	13/01/2021	Q2	19.50		12.948	3.470	9.478	Good condition		Gauged only							
MW4032	03/08/2021	Q2	19.50		12.948	3.039	9.909	Good condition		Gauged only							
MW4032	03/02/2022	Q2	9.52	16.5 - 19.5	12.948	2.940	10.008	Good condition	17.5	Gauged only							
MW4032	25/07/2022	Q2	9.52	16.5 - 19.5	12.948	2.495	10.453	Good condition	17.47	Gauged only							
MW4032	16/02/2023	Q2	9.52	16.5 - 19.5	12.948	2.825	10.123	Good condition	-	Gauged only							
MW4032	12/07/2023	Q2	19.50	16.5 - 19.5	12.948	1.672	11.276	Good condition.		Gauged only							
MW4035	20/03/2020	Q2	22.51			3.631	10.104	Good condition		6.72	1869.0	1121.4	3.22	21.73	57.9	260.17	Light Brown Low turbidity No odour
MW4035	23/07/2020	Q2	22.51		13.735	2.775	10.960	Good condition		9.11	2578.3	1546.98	2.18	18.93	-220.1	-15.03	Clear, low turbidity, no odour
MW4035	13/01/2021	Q2	22.50		13.735	3.040	10.695	Good condition		9.61	2610.5	1566.3	1.97	23.57	-156.9	43.53	Clear, Low Turbidity, Slight Organic Odour
MW4035	05/08/2021	Q2	22.50		13.735	2.394	11.341	Good condition		9.29	2991.9	1944.735	2.38	19.11	177.5	382.39	Light Grey, Low Turbidity, Organic Odour
MW4035	03/02/2022	Q2	22.65	19 - 22.5	13.735	2.722	11.013	Good condition	20.5	8.36	3187.6	2071.94	2.05	20.57	-121.4	82.03	Clear, Low Turbidity, No odour
MW4035	28/07/2022	Q2	22.65	19 - 22.5	13.735	2.462	11.273	Good condition	20.51	7.63	2448.0	1591.0	1.18	18.7	-128.6	76.7	Light Brown, No odour, Low Turbidity
MW4035	16/02/2023	Q2	22.65	19 - 22.5	13.735	2.485	11.250	Good condition	20.51	7.72	1395	907	1.04	26.3	-218.5	-20.8	Clear, Low turbidity, No odour, No sheen
MW4035	10/07/2023	Q2	22.65	19 - 22.5	13.735	1.672	12.063	Good condition.		7.68	1132	736	3.75	18.4	-107.7	97.9	Clear with black suspended sediment, low turbidity, organic odour.
MW4037	24/03/2020	Q1	8.07			5.203	9.990	Sediment on IP, well label damaged		6.92	5644.0	3386.4	5.23	21.2	156.5	359.3	Clear Low turbidity No odour
MW4037	23/07/2020	Q1	8.07		15.193	3.995	11.198	Good condition		7.54	6404.4	3842.6	4.72	20.1	47.3	251.2	Clear, low turbidity, no odour
MW4037	13/01/2021	Q1	8.00		15.193	4.405	10.788	Good condition		8.3	6510.6	3906.36	3.23	25.14	81.6	280.46	Clear, Low Turbidity, No odour
MW4037	03/08/2021	Q1	8.00		15.193	3.677	11.516	Good condition		7.52	6422.8	4174.82	6.45	18.82	172.0	377.18	Light Brown, Low Turbidity, No odour
MW4037	03/02/2022	Q1	8.15	5 - 8	15.193	3.931	11.262	Good condition	6.07	7.42	5987.0	3891.55	3.28	23.48	57.9	258.42	Clear, No odour
MW4037	27/07/2022	Q1	8.15	5 - 8	15.193	3.540	11.653	Good condition	6.07	7.51	4781.0	3107.0	3.89	19.6	15.3	219.7	Light Brown, No odour, Low Turbidity
MW4037	16/02/2023	Q1	8.15	5 - 8	15.193	3.572	11.621	Good condition	6.07	7.22	5435	3532.75	1.56	24.6	1.8	201.2	Clear, Low turbidity, No odour, No sheen
MW4037	12/07/2023	Q1	8.15	5 - 8	15.193	2.840	12.353	Good Condition		7.42	5186	3371	2.61	19.4	-48.2	156.4	Clear, Low turbidity, No odour.
MW4041	24/03/2020	Q1	10.07			7.450	7.156	Good condition		6.85	4392.0	2635.2	4.02	19.7	148.8	353.1	Light Brown Low turbidity No odour
MW4041	22/07/2020	Q1	10.07		14.606	6.045	8.561	Good condition		7.16	6548.2	3928.92	2.8	18.86	12.7	217.84	Clear, low turbidity, no odour
MW4041	13/01/2021	Q1	10.00		14.606	6.520	8.086	Good condition		7.23	5123.8	3074.3	2.90	20.6	42.4	245.8	Light Brown, Medium Turbidity, No odour
MW4041	03/08/2021	Q1	10.00		14.606	5.875	8.731	Good condition		7.1	7836.0	5093.4	3.16	17.23	164.0	370.77	Light Brown, Low Turbidity, No odour
MW4041	03/02/2022	Q1	10.10	7 - 10	14.606	5.930	8.676	Good condition	8.07	7.36	4843.0	3147.95	2.44	22.48	79.2	280.72	Clear, Low Turbidity, No odour
MW4041	27/07/2022	Q1	10.10	7 - 10	14.606	5.407	9.199	Good condition	8.07	6.94	5200.0	3380.0	1.65	18.9	15.8	220.9	Light Brown, No odour, Low Turbidity
MW4041	16/02/2023	Q1	10.10	7 - 10	14.606	5.232	9.374	Good condition	8.07	7.15	3451	2243.15	1.41	26.1	-6.2	191.7	Light Yellow / Brown, Medium turbidity, No odour, No sheen
MW4041	12/07/2023	Q1	10.10	7 - 10	14.606	4.605	10.001	Good Condition		7.01	4543	2952.95	1.33	18.4	54	259.6	Clear, Low turbidity, No odour.
MW4043	20/03/2020	Q2	7.92			5.945	6.180	Good condition		Gauged only							
MW4043	22/07/2020	Q2	7.92		12.125	4.090	8.035	Good condition		Gauged only							
MW4043	13/01/2021	Q2	10.00		12.125	5.055	7.070	Good condition		Gauged only							
MW4043	03/08/2021	Q2	10.00		12.125	4.085	8.040	Good condition, well head flooded		Gauged only							

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW4043	03/02/2022	Q2	7.92	5 - 10	12.125	4.150	7.975	Good condition	5.9	Gauged only							
MW4043	25/07/2022	Q2	7.92	5 - 10	12.125	3.620	8.505	Good condition	5.92	Gauged only							
MW4043	15/02/2023	Q2	7.92	5 - 10	12.125	4.056	8.069	Good condition	-	Gauged only							
MW4043	12/07/2023	Q2	7.92	5 - 10	12.125	2.712	9.413	Good condition.		Gauged only							
MW4045	24/03/2020	Q2	18.34			2.635	4.693	Sediment on IP		7.25	3266.0	1959.6	2.38	19.36	130.1	334.74	Light Grey Low turbidity Compost
MW4045	22/07/2020	Q2	18.34		7.328	1.675	5.653	Sediment on IP		7.99	3852.4	2311.44	4.32	18.48	-193.5	12.02	Clear, low turbidity, organic odour
MW4045	13/01/2021	Q2	18.00		7.328	2.340	4.988	Good condition		7.58	4104.5	2462.7	3.06	20.48	-91.6	111.92	Black / Grey, Low Turbidity, No odour
MW4045	03/08/2021	Q2	18.00		7.328	1.457	5.871	Good condition		7.68	4166.6	2708.3	3.77	17.9	-90.5	115.6	Light Grey, Medium Turbidity, No odour
MW4045	31/01/2022	Q2	19.00	15 - 18	7.328	0.802	6.526	Good condition	16.3	7.68	4053.0	2634.5	4.08	25.6	-56.2	142.2	Light Grey, Low Turbidity, Slight Organic Odour
MW4045	25/07/2022	Q2	19.00	15 - 18	7.328	1.586	5.742	Good condition	16.34	8.34	2924.0	1900.0	2.73	19.6	-73.6	130.8	Light Brown, Low Turbidity, No Odour
MW4045	15/02/2023	Q2	19.00	15 - 18	7.328	1.865	5.463	Good condition	16.34	7.81	3510	2281.5	2.01	22.4	-147.4	54.2	Clear, Low turbidity, No odour, No sheen
MW4045	10/07/2023	Q2	19.00	15 - 18	7.328	1.373	5.955	Good condition.		7.74	3039	1975.35	3.64	19.1	-62.2	142.7	Clear/grey, low turbidity, slight organic odour.
MW4046	25/03/2020	Q2	6.54			2.240	6.950	Sediment on IP		Gauged only							
MW4046	23/07/2020	Q2	6.54		9.19	1.455	7.735	Sediment on IP		Gauged only							
MW4046	14/01/2021	Q2	6.50		9.19	1.115	8.075	Good condition		Gauged only							
MW4046	03/08/2021	Q2	6.50		9.19	1.176	8.014	Good condition		Gauged only							
MW4046	03/02/2022	Q2	6.62	3.5 - 6.5	9.19	1.290	7.900	Good condition	4.5	Gauged only							
MW4046	25/07/2022	Q2	6.62	3.5 - 6.5	9.190	1.298	7.892	Good condition	4.54	Gauged only							
MW4046	1/02/2023	Q2	6.62	3.5 - 6.5	9.190	1.540	7.650	Good condition	-	Gauged only							
MW4046	12/07/2023	Q2	6.62	3.5 - 6.5	9.190	1.482	7.708	Good condition.		Gauged only							
MW4047	20/03/2020	Q1	8.62			3.865	7.792	Sediment on IP		Gauged only							
MW4047	23/07/2020	Q1	8.62		11.657	2.815	8.842	Sediment on IP		Gauged only							
MW4047	14/01/2021	Q1	8.50		11.657	3.355	8.302	Good condition		Gauged only							
MW4047	04/08/2021	Q1	8.50		11.657	2.920	8.737	Good condition		Gauged only							
MW4047	03/02/2022	Q1	8.52	5.5 - 8.5	11.657	2.885	8.772	Good condition	6.6	Gauged only							
MW4047	25/07/2022	Q1	8.52	5.5 - 8.5	11.657	2.556	9.101	Good condition	6.62	Gauged only							
MW4047	16/02/2023	Q1	8.52	5.5 - 8.5	11.657	2.538	9.119	Good condition	-	Gauged only							
MW4047	12/07/2023	Q1	8.52	5.5 - 8.5	11.657	1.796	9.861	Good condition.		Gauged only							
MW4048	25/03/2020	Q2	21.34			5.281	7.694	Sediment on IP		8.33	1047.0	628.2	2.23	21.0	65.8	268.8	Light Brown Low turbidity No odour
MW4048	22/07/2020	Q2	21.34		12.975	3.612	9.363	Sediment on IP		8.98	1050.9	630.54	5.22	17.7	-155.0	51.3	Clear, low turbidity, organic odour
MW4048	13/01/2021	Q2	21.00		12.975	4.040	8.935	Good condition		8.24	1619.1	971.46	2.94	24.8	105.2	304.4	Light Brown, Low Turbidity, No odour
MW4048	06/08/2021	Q2	21.00		12.975	3.219	9.756	Good condition		8.99	1109.0	720.85	3.43	18.9	-54.2	150.9	Grey, Low Turbidity, Organic Odour
MW4048	04/02/2022	Q2	20.98	18 - 21	12.975	3.746	9.229	Good condition	19.3	8.84	1055.8	686.27	1.54	18.7	-122.7	82.6	Light Brown, Medium Turbidity, No odour
MW4048	25/07/2022	Q2	20.98	18 - 21	12.975	3.313	9.662	Good condition	19.30	8.77	792.0	514.0	2.51	18.1	22.8	228.7	Light Brown, Low to Medium Turbidity, No Odour
MW4048	16/02/2023	Q2	20.98	18 - 21	12.975	4.002	8.973	Good condition	19.30	8.57	930	604.5	2.64	20.2	-115.2	88.6	Clear, Low turbidity, No odour, No sheen
MW4048	10/07/2023	Q2	20.98	18 - 21	12.975	2.615	10.360	Good condition.		8.13	959	623.35	3.54	18.7	-39.9	165.4	Orange/brown, low turbidity, no odour.
MW4049	26/03/2020	Q1	-			-	-	Couldn't not access		Unable to gauge, needs traffic control							
MW4049	23/07/2020	Q1	8.40		10.643	2.335	8.308	Good condition		Gauged only							
MW4049	13/01/2021	Q1	8.50		10.643	1.740	8.903	Good condition		Gauged only							
MW4049	05/08/2021	Q1	8.50		10.643	2.130	8.513	Good condition		Gauged only							
MW4049	03/02/2022	Q1	8.40	5.5 - 8.5	10.643	2.028	8.615	Good condition	6.5	Gauged only							
MW4049	25/07/2022	Q1	8.40	5.5 - 8.5	10.643	1.737	8.906	Good condition	6.50	Gauged only							
MW4049	16/02/2023	Q1	8.40	5.5 - 8.5	10.643	1.740	8.903	Good condition	-	Gauged only							
MW4049	13/07/2023	Q1	8.40	5.5 - 8.5	10.643	1.796	8.847	Good condition.		Gauged only							
MW4052	24/03/2020	Q1	9.48			5.932	6.125	Good condition		7.04	1501.0	900.6	2.29	19.9	142.4	346.5	Brown Medium turbidity No odour
MW4052	22/07/2020	Q1	9.48		12.057	4.795	7.262	Good condition		8.13	1381.4	828.84	4.50	18.7	-63.0	142.3	Light brown, medium turbidity, no odour
MW4052	13/01/2021	Q1	9.50		12.057	5.115	6.942	Good condition		7.73	1723.7	1034.22	3.96	20.8	-3.7	199.5	Light Brown, Medium Turbidity, No odour
MW4052	03/08/2021	Q1	9.50		12.057	4.442	7.615	Good condition		7.96	2122.0	1379.3	2.69	17.7	-54.2	152.1	Brown, Medium Turbidity, No odour
MW4052	03/02/2022	Q1	9.81	6.5 - 9.5	12.057	4.586	7.471	Good condition	7.5	7.92	1640.0	1066.0	2.18	22.2	53.5	255.3	Light Brown, Low Turbidity, No odour
MW4052	27/07/2022	Q1	9.81	6.5 - 9.5	12.057	4.149	7.908	Good condition	7.50	7.87	1015.0	659.0	3.36	19.0	-63.0	142.0	Orange / Brown, No odour, Medium Turbidity
MW4052	15/02/2023	Q1	9.81	6.5 - 9.5	12.057	4.142	7.915	Good condition	7.50	7.9	1396	907.4	2.51	21.4	-10.5	192.1	Light Brown, Medium turbidity, No odour, No sheen
MW4052	12/07/2023	Q1	9.81	6.5 - 9.5	12.057	3.396	8.661	Good Condition		7.81	1096	712.4	1.79	18.8	-4.9	200.3	Orange, Medium turbidity, No odour.
MW4053	24/03/2020	Q1	8.21			2.782	4.668	Sediment on IP		7.09	2273.0	1363.8	3.88	19.7	134.1	338.4	Light Brown turbidity Compost odour
MW4053	22/07/2020	Q1	8.21		7.45	1.795	5.655	Sediment on IP		8.29	2134.7	1280.82	4.12	17.9	0.1	206.2	Light brown, low turbidity, no odour
MW4053	13/01/2021	Q1	8.50		7.45	2.485	4.965	Good condition		7.81	2470.2	1482.12	2.51	20.5	-14.3	189.2	Light Brown, Medium Turbidity, No odour
MW4053	03/08/2021	Q1	8.50		7.45	1.575	5.875	Good condition		8.05	2322.4	1509.56	5.43	18.1	41.0	246.9	Brown, Medium Turbidity, No odour
MW4053	31/01/2022	Q1	4.29	5.25 - 8.5	7.45	1.900	5.550	Good condition	6.2	7.68	2992.0	1944.8	3.49	30.7	29.0	222.3	Brown, Medium Turbidity, No odour
MW4053	25/07/2022	Q1	4.29	5.25 - 8.5	7.450	1.711	5.739	Good condition	6.20	8.14	2167.0	1408.0	2.62	19.0	-66.5	138.5	Light Brown, Low Turbidity, No Odour
MW4053	15/02/2023	Q1	4.29	5.25 - 8.5	7.450	2.016	5.434	Good condition	6.20	7.8	2440	1586	1.54	21.3	-62.6	140.1	Light Brown, Medium turbidity, No odour, No sheen

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field	Redox Potential - Corrected	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV		
MW4053	10/07/2023	Q1	4.29	5.25 - 8.5	7.450	1.557	5.893	Good condition.		8.12	2271	1476	4.70	18.4	29.3	234.9	Orange/brown, medium turbidity, no odour.
MW4055	24/03/2020	Q1	9.05			3.590	4.293	Good condition		6.84	5253.0	3151.8	2.78	20.6	162.0	365.4	Light Brown Low turbidity No odour
MW4055	23/07/2020	Q1	9.05		7.883	2.585	5.298	Good condition		7.64	4798.3	2878.98	4.91	20.5	15.2	218.8	Light yellow, low turbidity, no odour
MW4055	13/01/2021	Q1	9.00		7.883	3.125	4.758	Good condition		7.46	4988.3	2993.0	3.90	21.4	-33.5	169.1	Light Brown, Medium Turbidity, No odour
MW4055	03/08/2021	Q1	9.00		7.883	2.148	5.735	Good condition		7.64	4849.2	3151.98	6.41	17.4	181.9	388.5	Yellow / Brown, Low Turbidity, No odour
MW4055	02/02/2022	Q1	9.00	6 - 9	7.883	2.667	5.216	Good condition	7	7.71	4748.3	3086.395	3.87	22.8	-40.7	160.5	Light Brown, Low Turbidity, No odour
MW4055	27/07/2022	Q1	9.00	6 - 9	7.883	2.219	5.664	Good condition	7.00	7.51	3606.0	2343.0	2.79	20.4	48.5	252.1	Orange / Brown, No odour, Medium Turbidity
MW4055	15/02/2023	Q1	9.00	6 - 9	7.883	2.689	5.194	Good condition	7.00	7.58	4210	2736.5	2.81	22.4	-22.1	179.5	Light Brown, Medium turbidity, No odour, No sheen
MW4055	12/07/2023	Q1	9.00	6 - 9	7.883	1.945	5.938	Good Condition		7.41	4175	2713.75	1.67	19.2	29.8	234.6	Clear, Low turbidity, No odour.
MW4057	25/03/2020	Q1	7.98			1.528	7.901	Good condition		6.40	6380.0	3828.0	2.20	21.2	100.0	302.9	Brown Turbid turbidity No odour
MW4057	23/07/2020	Q1	7.98		9.429	1.208	8.221	Good condition		7.35	6379.7	3827.82	4.26	15.5	98.7	307.2	Light yellow, medium turbidity, organic odour
MW4057	14/01/2021	Q1	8.00		9.429	1.140	8.289	Good condition		7.93	7701.5	4620.9	2.13	19.7	62.6	266.9	Light Brown, Medium Turbidity, Slight Organic Odour
MW4057	05/08/2021	Q1	8.00		9.429	0.910	8.519	Good condition		8.30	6284.9	4085.185	5.28	17.5	239.7	446.2	Grey / Brown, Turbid, No odour
MW4057	03/02/2022	Q1	8.00	5 - 8	9.429	0.886	8.543	Good condition	6	7.99	6653.0	4324.45	2.86	19.2	-2.9	201.9	Grey / Brown, Medium Turbidity, No odour
MW4057	28/07/2022	Q1	8.00	5 - 8	9.429	0.878	8.551	Good condition	6.00	7.87	5711.0	3712.0	2.12	18.1	-118.3	87.6	Dark Brown, No odour, Turbid Turbidity
MW4057	15/02/2023	Q1	8.00	5 - 8	9.429	0.872	8.557	Good condition	6.00	7.73	6568	4269.2	1.45	20.1	-141.7	62.2	Orange / Brown, High turbidity, No odour, No sheen
MW4057	10/07/2023	Q1	8.00	5 - 8	9.429	0.799	8.630	Good condition.		7.67	6312	4102.8	3.33	18.3	-72.6	133.1	Brown, high turbidity, organic odour.
MW4058	24/03/2020	Q1	3.72			3.560	5.847	Sediment on IP, blocked at 3.7, installed sleeve		6.95	5265.0	3159.0	2.50	21.0	164.0	367.0	Black/grey Low turbidity Compost odour
MW4058	22/07/2020	Q1	5.25		9.407	3.105	6.302	Well unblocked, good condition		7.69	5816.6	3490.0	3.20	19.1	-24.5	180.4	Clear, low turbidity, organic odour
MW4058	13/01/2021	Q1	5.50		9.407	2.902	6.505	Good condition		7.04	7887.8	4732.68	2.38	21.0	-89.5	113.5	Brown, Medium Turbidity, Organic Odour
MW4058	03/08/2021	Q1	5.50		9.407	2.936	6.471	Good condition		7.84	2994.0	1946.1	5.28	15.7	39.3	247.6	Light Brown, Low Turbidity, Compost
MW4058	02/02/2022	Q1	5.25	2.5 - 5.5	9.407	2.674	6.733	Good condition	1.7	7.30	6859.8	4458.87	1.73	20.8	-64.8	138.4	Black / Grey, Turbid, Organic Odour
MW4058	25/07/2022	Q1	5.25	2.5 - 5.5	9.407	2.557	6.850	Good condition	1.70	7.74	4049.0	2631.0	1.43	18.8	99.9	305.1	Grey/green, Medium Turbidity, No Odour
MW4058	15/02/2023	Q1	5.25	2.5 - 5.5	9.407	2.566	6.841	Good condition	3.50	7.22	8060	5239	0.93	20.7	89	292.3	Clear, Low turbidity, No odour, No sheen
MW4058	10/07/2023	Q1	5.25	2.5 - 5.5	9.407	2.347	7.060	Good condition.		7.3	5913	3843.45	5.42	17.7	-47	159.3	Grey/black, low to medium turbidity, organic odour.
MW4059	20/03/2020	Q1	7.90			2.447	7.757	covered in sand and grass		6.75	9440.0	5664.0	4.96	23.2	46.7	247.5	Brown Medium turbidity No odour
MW4059	22/07/2020	Q1	7.90		10.204	1.970	8.234	Good condition		7.50	14776.7	8866.02	4.26	17.6	-28.3	178.1	Light yellow, low turbidity, no odour
MW4059	13/01/2021	Q1	8.00		10.204	2.030	8.174	Good condition		6.50	13699.0	8219.4	3.02	20.1	230.1	434.0	Light Brown, Medium Turbidity, No odour
MW4059	03/08/2021	Q1	8.00		10.204	1.940	8.264	Good condition		7.34	14018.0	9111.7	6.36	15.9	152.0	360.1	Brown, Medium Turbidity, No odour
MW4059	02/02/2022	Q1	8.00	5 - 8	10.204	1.776	8.428	Good condition	5.9	7.23	15179.2	9866.48	1.90	21.8	-28.2	174.0	Light Brown, Low Turbidity, No odour
MW4059	27/07/2022	Q1	8.00	5 - 8	10.204	1.150	9.054	Good condition	5.90	7.51	10412.0	6767.0	3.40	18.5	-177.0	28.5	Light Brown, No odour, Low Turbidity
MW4059	15/02/2023	Q1	8.00	5 - 8	10.204	1.208	8.996	Good condition	5.90	7.28	13531	8795.15	2.15	25.7	61.1	259.4	Clear, Low turbidity, No odour, No sheen
MW4059	11/07/2023	Q1	8.00	5 - 8	10.204	0.512	9.692	Good Condition		7.49	12970	8430.5	3.92	18.7	-31.2	174.1	Light Brown, Low turbidity, No odour.
MW4060	20/03/2020	Q1	6.44			3.078	8.308	sandy gatic		6.87	9245.0	5547.0	2.97	22.4	24.3	225.9	Light Brown Low turbidity No odour
MW4060	22/07/2020	Q1	6.44		11.386	2.405	8.981	Good condition		7.75	9593.2	5755.9	3.46	17.6	-58.4	148.0	Light grey, low turbidity, no odour
MW4060	12/01/2021	Q1	6.90		11.386	2.575	8.811	Good condition		7.33	10024.5	6014.7	1.51	23.0	-13.0	188.0	Light Brown, Low Turbidity, No odour
MW4060	03/08/2021	Q1	6.90		11.386	2.300	9.086	Bolts damaged		7.87	2668.0	1734.2	6.28	16.2	76.9	284.7	Yellow / Brown, Turbid, No odour
MW4060	02/02/2022	Q1	7.00	3.9 - 6.9	11.386	2.220	9.166	Bolts damaged	4.5	7.74	2196.6	1427.79	4.52	21.6	-35.7	166.7	Black / Grey, Turbid, No odour
MW4060	27/07/2022	Q1	7.00	3.9 - 6.9	11.386	1.618	9.768	Bolts damaged	4.50	7.47	5594.0	3636.0	1.75	18.1	-84.1	121.8	Light Brown, No odour, Low Turbidity
MW4060	15/02/2023	Q1	7.00	3.9 - 6.9	11.386	1.594	9.792	Good condition	4.50	7.38	5159	3353.35	1.49	23.7	-201.4	-1.1	Clear, Low turbidity, No odour, No sheen
MW4060	11/07/2023	Q1	7.00	3.9 - 6.9	11.386	1.074	10.312	Good Condition		7.66	4045	2629.25	1.15	18.6	-165.1	40.3	Light Brown, Low turbidity, No odour.
MW4061	19/03/2020	Q1	19.72			5.040	11.498	roots on ip		6.60	4530.0	2718.0	3.57	20.3	23.0	226.7	Light Brown Low turbidity Septic odour
MW4061	22/07/2020	Q1	19.72		16.538	4.805	11.733	Good condition		6.65	4637.2	2782.32	4.04	17.3	108.0	314.7	Light brown, medium turbidity, no odour
MW4061	12/01/2021	Q1	8.00		16.538	4.620	11.918	Good condition		7.19	5345.1	3207.06	2.52	23.2	-115.0	85.8	Light Brown, Medium Turbidity, No odour
MW4061	03/08/2021	Q1	8.00		16.538	-	-	Could not access		Could not access - submerged in water							
MW4061	02/02/2022	Q1	7.95	5 - 8	16.538	4.437	12.101	Good condition	17.7	7.34	6049.5	3932.175	2.08	22.5	-40.0	161.5	Light Brown, Low Turbidity, No odour
MW4061	25/07/2022	Q1	7.95	5 - 8	16.538	4.277	12.261	Good condition	17.70	7.47	3361.0	2184.0	1.18	17.3	52.4	259.1	Light Brown, No odour, Medium Turbidity
MW4061	1/02/2023	Q1	7.95	5 - 8	16.538	3.968	12.570	Good condition	6.00	7.57	3802	2471.3	3.48	19.9	-123.8	80.3	Brown, High turbidity, No odour, No sheen
MW4061	11/07/2023	Q1	7.95	5 - 8	16.538	3.783	12.755	Good Condition		7.76	2547	1655.55	0.91	19.9	-65.8	138.3	Light Grey, Low turbidity, No odour.
MW4063	26/03/2020	Q1	-			-	-	Lost/destroyed		Lost/destroyed							
MW4063	23/07/2020	Q1	8.50		8.916	-	-	Lost/destroyed		Destroyed							
MW4064	24/03/2020	Q1	7.75			2.146	3.739	Sediment on IP		6.72	6832.0	4099.2	4.34	20.3	163.0	366.7	Light Brown Medium turbidity No odour
MW4064	23/07/2020	Q1	7.75		5.885	1.240	4.645	Sediment on IP		8.07	2400.0	1440.0	7.17	18.7	-49.0	156.3	Clear, low turbidity, no odour
MW4064	13/01/2021	Q1	8.00		5.885	1.635	4.250	Good condition		7.54	6227.4	3736.44	3.64	20.9	-91.3	111.8	Light Brown, Low Turbidity, No odour
MW4064	03/08/2021	Q1	8.00		5.885	0.758	5.127	Good condition		7.54	5922.1	3849.365	5.68	16.8	78.2	285.4	Light Brown, Low Turbidity, No odour
MW4064	02/02/2022	Q1	7.81	5 - 8	5.885	1.335	4.550	Good condition	5.8	7.62	4016.7	2610.855	1.86	22.8	-55.4	145.8	Light Brown, Medium Turbidity, No odour
MW4064	28/07/2022	Q1	7.81	5 - 8	5.885	0.954	4.931	Good condition	5.80	7.78	3411.0	2217.0	5.15	18.8	-93.7	111.5	Brown, No odour, Low Turbidity
MW4064	30/01/2023	Q1	7.81	5 - 8	5.885	1.624	4.261	Good condition	5.80	7.46	5755	3741	2.01	24	-90.7	109.3	Clear, Low turbidity, No odour, No sheen

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW4064	12/07/2023	Q1	7.81	5 - 8	5.885	0.850	5.035	Good Condition		7.66	5787	3762	3.25	18.5	-31.2	174.3	Clear, Low turbidity, No odour.
MW4065	19/03/2020	Q2	20.28			6.321	11.433	Good condition		6.71	4602.0	2761.2	2.13	20.4	14.0	217.6	Light Brown Low turbidity Organic Odour
MW4065	22/07/2020	Q2	20.28		17.754	6.055	11.699	Good condition		7.05	4708.6	2825.2	3.07	17.8	-173.9	32.3	Black, medium turbidity, organic odour
MW4065	12/01/2021	Q2	20.00		17.754	6.020	11.734	Good condition		7.24	4884.1	2930.46	1.96	24.5	-91.4	108.1	Light Brown, Medium Turbidity, Organic Odour
MW4065	02/08/2021	Q2	20.00		17.754	6.045	11.709	Good condition		7.35	5536.8	3598.92	4.01	16.6	-54.9	152.5	Black/ Grey, Medium Turbidity, Organic Odour
MW4065	02/02/2022	Q2	20.04	17 - 20	17.754	5.889	11.865	Good condition	18.3	7.44	4890.6	3178.89	2.28	21.6	-80.2	122.2	Light Brown, Turbid, Organic Odour
MW4065	27/07/2022	Q2	20.04	17 - 20	17.754	5.695	12.059	Good condition	18.30	7.39	3923.0	2549.0	1.65	18.9	-37.4	167.7	Light Brown, No odour, Medium Turbidity
MW4065	1/02/2023	Q2	20.04	17 - 20	17.754	5.332	12.422	Good condition	18.30	7.49	4271	2776.15	2.72	20.2	-96.1	107.7	Clear, Low turbidity, No odour, No sheen
MW4065	11/07/2023	Q2	20.04	17 - 20	17.754	5.191	12.563	Good Condition		7.27	4097	2663	0.55	20.4	-169.8	33.8	Orange / Brown, Low turbidity, No odour.
MW4066	25/03/2020	Q2	17.45			1.546	7.932	Good condition		6.40	107.5	64.5	1.78	21.3	63.9	266.6	Clear Low turbidity No odour
MW4066	23/07/2020	Q2	17.45		9.478	1.328	8.150	Good condition		7.47	13590.7	8154.42	2.66	15.8	112.5	320.7	Clear, low turbidity, organic odour
MW4066	14/01/2021	Q2	18.00		9.478	1.260	8.218	Good condition		8.00	13259.2	7955.5	2.58	20.2	74.1	277.9	Light Brown, Medium Turbidity, Slight Organic Odour
MW4066	05/08/2021	Q2	18.00		9.478	1.043	8.435	Good condition		8.53	14368.8	9339.72	5.61	17.4	205.4	412.0	Light Brown, Low Turbidity, No odour
MW4066	03/02/2022	Q2	18.00	15 - 18	9.478	1.005	8.473	Good condition	15.5	8.01	12640.0	8216.0	3.48	19.5	42.6	247.2	Clear, Low Turbidity, No odour
MW4066	28/07/2022	Q2	18.00	15 - 18	9.478	0.994	8.484	Gatic flooded below top of casing	15.45	7.77	10760.0	6994.0	2.74	18.1	-108.8	97.1	Clear, Slight Organic Odour, Low Turbidity
MW4066	15/02/2023	Q2	18.00	15 - 18	9.478	1.015	8.463	Good condition	16.00	7.56	11966	7777.9	1.79	20.3	-45.5	158.2	Light Yellow / Brown, Low turbidity, No odour, No sheen
MW4066	10/07/2023	Q2	18.00	15 - 18	9.478	0.902	8.576	Good condition.		7.66	10905	7088.25	3.92	17.7	63.7	270	Yellow-brown, low turbidity, no odour.
MW4068	20/03/2020	Q3	45.82			18.705	-4.956	Sediment on IP, bolts need replacing		11.00	7471.0	4482.6	2.23	20.7	-32.0	171.3	Light Brown Low turbidity No odour
MW4068	23/07/2020	Q3	45.82		13.749	7.445	6.304	Good condition		12.17	4970.5	2982.3	4.15	17.7	-64.1	142.2	Clear, low turbidity, no odour
MW4068	13/01/2021	Q3	45.00		13.749	14.295	-0.546	Good condition		11.94	5819.1	3491.46	1.76	24.5	-99.1	100.4	Clear, Low Turbidity, No odour
MW4068	05/08/2021	Q3	45.00		13.749	6.597	7.152	Good condition		12.02	3495.4	2272.01	4.04	18.8	98.0	303.2	Clear, Low Turbidity, No odour
MW4068	31/01/2022	Q3	44.60	42 - 45	13.749	10.759	2.990	Good condition	43.8	7.75	2843.0	1847.95	3.49	27.4	153.0	349.6	Clear, Low Turbidity, No odour
MW4068	25/07/2022	Q3	44.60	42 - 45	13.749	6.481	7.268	Good condition	43.82	11.68	2322.0	1509.0	1.57	19.4	-57.6	147.0	Clear, No Turbidity, Slight Organic Odour
MW4068	15/02/2023	Q3	44.60	42 - 45	13.749	15.375	-1.626	Good condition	43.82	11.49	2314	1504.1	1.41	21.4	-82.5	120.1	Light Grey, Medium turbidity, No odour, No sheen
MW4068	10/07/2023	Q3	44.60			4.434	9.315	Good condition.		10.96	1547	1005.55	4.56	18.5	-28.3	177.2	Clear, Low turbidity, No odour.
MW4069	25/03/2020	Q3	35.25		5.200	7.720	Good condition			7.69	2572.0	1543.2	1.95	21.2	103.4	306.2	Light Brown Low turbidity No odour
MW4069	22/07/2020	Q3	35.25		12.92	3.695	9.225	Good condition		8.13	3213.1	1927.86	3.55	17.7	-93.2	113.1	Brown, medium turbidity, no odour
MW4069	13/01/2021	Q3	36.00		12.92	4.495	8.425	Good condition		7.46	2979.5	1787.7	1.68	34.1	-88.5	101.4	Light Brown, Low Turbidity, No odour
MW4069	06/08/2021	Q3	36.00		12.92	3.352	9.568	Good condition		9.01	3009.0	1955.85	2.83	18.6	-55.5	149.9	Brown, Medium Turbidity, Slight Organic Odour
MW4069	31/01/2022	Q3	-	31.5 - 36	12.92	3.800	9.120	Good condition	33.3	-	-	-	-	-	-		
MW4069	04/02/2022	Q3	34.80			3.821	9.099	Good condition		9.29	3187.3	2071.745	2.37	18.8	-119.6	85.6	Light Brown, Medium Turbidity, No odour
MW4069	25/07/2022	Q3	-	31.5 - 36	12.920	3.388	9.532	Good condition	33.25	8.89	1071.0	696.0	1.72	18.0	7.7	213.7	Light Brown, Low to Medium Turbidity, No Odour
MW4069	16/02/2023	Q3	-	31.5 - 36	12.920	3.870	9.050	Good condition	33.25	7.7	3528	2293.2	2.51	20.5	-79.2	124.3	Clear, Low turbidity, No odour, No sheen
MW4069	10/07/2023	Q3	-	31.5 - 36	12.920	2.685	10.235	Good condition.		7.32	2252	1463.8	3.86	19.0	29.2	234.2	Orange/brown, medium to high turbidity, no odour.
MW4070	24/03/2020	Q3	33.75			2.093	5.218	Sediment on IP		7.39	2507.0	1504.2	2.70	19.4	106.8	311.4	Light Brown Low turbidity Slight Organic Odour
MW4070	22/07/2020	Q3	33.75		7.311	1.455	5.856	Sediment on IP		8.13	2552.9	1531.74	3.91	19.1	-162.1	42.8	Light brown, low turbidity, no odour
MW4070	13/01/2021	Q3	45.00		7.311	1.825	5.486	Good condition		7.73	2712.8	1627.68	3.95	20.7	-115.9	87.5	Black/ Grey, Medium Turbidity, No odour
MW4070	03/08/2021	Q3	45.00		7.311	1.475	5.836	Good condition		7.74	2761.6	1795.04	4.65	17.6	-64.2	142.2	Black, Turbid, Organic Odour
MW4070	31/01/2022	Q3	45.00	30 - 45	7.311	1.701	5.610	Good condition	31.8	7.52	2715.0	1764.75	1.98	26.5	-83.4	114.1	Grey / Brown, Medium Turbidity, Organic Odour
MW4070	25/07/2022	Q3	45.00	30 - 45	7.311	1.448	5.863	Good condition	31.75	9.27	2092.0	1359.0	2.82	18.7	-187.9	17.4	Grey, Medium Turbidity, Organic Odour
MW4070	15/02/2023	Q3	45.00	30 - 45	7.311	1.488	5.823	Good condition	43.00	7.43	2332	1515.8	2.13	22.8	-196.7	4.5	Black, Medium turbidity, No odour, No sheen
MW4070	10/07/2023	Q3	45.00	30 - 45	7.311	1.197	6.114	Good condition.		7.47	2042	1327.3	3.51	18.9	-75.7	129.4	Clear/grey, low turbidity, organic odour.
MW4071	20/03/2020	Q3	38.58			3.567	8.442	Sediment on IP, bentonite damaged		6.93	10583.0	6349.8	1.69	21.3	-69.4	133.3	Light Grey Low turbidity No odour
MW4071	22/07/2020	Q3	38.58		12.009	2.885	9.124	Good condition		7.60	13664.2	8198.5	3.48	19.1	-241.4	-36.5	Clear, low turbidity, no odour
MW4071	12/01/2021	Q3	30.00		12.009	3.075	8.934	Good condition		7.34	14308.6	8585.16	1.91	24.4	-230.9	-31.3	Clear, Low to Medium Turbidity, Organic Odour
MW4071	03/08/2021	Q3	30.00		12.009	2.945	9.064	Good condition		7.33	14405.0	9363.25	3.06	17.0	-256.0	-49.0	Light Grey, Low Turbidity, Organic Odour
MW4071	31/01/2022	Q3	29.60	27 - 30	12.009	2.915	9.094	Good condition	36.6	6.99	8145.0	5294.25	2.56	28.4	-215.6	-20.0	Clear, Low Turbidity, Organic Odour
MW4071	25/07/2022	Q3	29.60	27 - 30	12.009	2.251	9.758	Good condition	36.58	7.90	7501.0	4875.0	2.82	19.6	-209.5	-5.1	Grey/brown, Low Turbidity, Organic Odour
MW4071	16/02/2023	Q3	29.60	27 - 30	12.009	2.285	9.724	Good condition	27.00	7.72	13120	8528	0.81	24.3	-274	-74.3	Clear, Low turbidity, Organic Odour, No sheen
MW4071	10/07/2023	Q3	29.60	27 - 30	12.009	1.694	10.315	Good condition.		7.69	11033	7171.45	4.01	18.9	-203.7	1.4	Clear/grey, low turbidity, organic odour.
MW4072	24/03/2020	Q1	12.99			10.674	6.473	Good condition		6.81	3350.0	2010.0	5.42	20.2	145.4	349.2	Brown Medium turbidity Slight Organic Odour
MW4072	22/07/2020	Q1	12.99		17.147	9.250	7.897	Good condition		7.43	3177.9	1906.74	5.65	19.6	37.5	241.9	Light brown, medium turbidity, no odour
MW4072	13/01/2021	Q1	13.00		17.147	9.655	7.492	Good condition		7.73	872.7	523.62	7.21	20.7	15.9	219.3	Light Brown, Low to Medium Turbidity, Slight Organic Odour
MW4072	03/08/2021	Q1	13.00		17.147	9.877	7.270	Good condition		7.90	1189.0	772.85	7.07	16.7	59.4	266.8	Brown, Medium Turbidity, No odour
MW4072	03/02/2022	Q1	13.90	10 - 13	17.147	9.600	7.547	Good condition	11.0	7.94	1817.0	1181.05	7.91	22.5	46.9	248.4	Clear, Low Turbidity, No odour
MW4072	27/07/2022	Q1	13.90	10 - 13	17.147	9.194	7.953	Good condition	10.99	7.39	1525.0	991.0	2.47	19.9	-12.4	191.7	Light Brown, No odour, Low Turbidity
MW4072	1/02/2023	Q1	13.90	10 - 13	17.147	8.611	8.536	Good condition	10.99	7.22	2115	1374.75	2.48	22.2	34.8	236.6	Clear, Low turbidity, No odour, No sheen
MW4072	12/07/2023	Q1	13.90	10 - 13	17.147	8.102	9.045	Good Condition		7.42	2106	1369	2.31	18.9	-62.1	143	Orange, Low turbidity, No odour.

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW4073	26/03/2020	Q3	12.80			12.551	-3.093	blocked at 12.8m. roots on lp		Insufficent water for field parameters							
MW4073	23/07/2020	Q3	43.00		9.458	2.860	6.598	PVC casing bent, additional weights on sleeve		7.66	15157.6	9094.56	5.04	17.9	111.3	317.5	Brown, medium turbidity, organic odour
MW4073	14/01/2021	Q3	43.50		9.458	7.115	2.343	Good condition		8.95	12856.1	7713.66	4.54	20.0	61.8	265.8	Light Brown, Medium Turbidity, No odour
MW4073	05/08/2021	Q3	43.50		9.458	1.256	8.202	Good condition		9.39	13901.2	9035.8	3.84	18.0	139.1	345.1	Brown, Medium Turbidity, No odour
MW4073	31/01/2022	Q3	-	40.5 - 43.5	9.458	1.560	7.898	Good condition	10.8	-	-	-	-	-	-	#VALUE!	
MW4073	31/01/2022	Q3	42.30			1.614	7.844	Good condition		9.15	14654.0	9525.1	2.76	20.0	-38.8	165.2	Clear, Low Turbidity, Organic Odour
MW4073	28/07/2022	Q3	-	40.5 - 43.5	9.458	1.104	8.354	Good condition	10.80	8.40	11158.0	7252.0	3.37	18.3	-207.2	-1.5	Black/ Grey, Slight Organic Odour, Low Turbidity
MW4073	15/02/2023	Q3	-	40.5 - 43.5	9.458	1.364	8.094	Good condition	41.50	7.94	9960	6474	2.41	21.3	-289	-86.3	Clear, Low turbidity, Rotten egg smell (sulfurous), No sheen
MW4073	10/07/2023	Q3	-	40.5 - 43.5	9.458	0.951	8.507	Good condition.		8.33	8831	5740.15	4.27	18.2	-87.9	117.9	Clear with suspended organic matter, low turbidity, organic odour.
MW4074	24/03/2020	Q3	39.53			6.246	7.814	Good condition		6.63	4326.0	2595.6	5.56	20.7	148.9	352.2	Light Brown Low turbidity Slight Organic Odour
MW4074	22/07/2020	Q3	39.53		14.06	4.790	9.270	Good condition		7.70	4878.2	2926.92	6.47	19.5	-38.3	166.2	Light yellow, medium turbidity, no odour
MW4074	13/01/2021	Q3	39.00		14.06	5.355	8.705	Good condition		7.24	5217.0	3130.2	5.78	21.5	42.8	245.3	Light Brown, Low Turbidity, No odour
MW4074	03/08/2021	Q3	39.00		14.06	4.559	9.501	Good condition		7.36	5439.8	3535.87	6.66	18.6	201.4	406.9	Clear, Low Turbidity, No odour
MW4074	31/01/2022	Q3	37.50	33 - 39	14.06	4.706	9.354	Good condition	37.5	7.53	2541.0	1651.65	5.83	27.2	145.8	342.6	Light Brown, Low Turbidity, No odour
MW4074	25/07/2022	Q3	37.50	33 - 39	14.060	4.325	9.735	Good condition	37.53	8.32	2048.0	1331.0	2.58	17.7	-160.2	46.1	Grey, Medium Turbidity, Organic Odour. Fine suspended sediment
MW4074	16/02/2023	Q3	37.50	33 - 39	14.060	4.425	9.635	Good condition	37.53	8.27	2119	1377.35	1.24	26.2	-247.8	-50	Light Grey, High turbidity, No odour, No sheen
MW4074	10/07/2023	Q3	37.50	33 - 39	14.060	3.583	10.477	Good condition.		8.26	2097	1363.05	3.46	18.9	-202.3	2.8	Grey/black suspended sediment, medium turbidity, organic odour.
MW4075	25/03/2020	Q4	48.12			9.657	3.402	Sediment on IP		10.14	3407.0	2044.2	1.53	23.3	55.0	255.7	Yellow / Brown Low turbidity Compost odour
MW4075	22/07/2020	Q4	48.12		13.059	5.500	7.559	Sediment on IP		11.54	2800.3	1680.18	2.28	19.2	-215.6	-10.8	Light brown, low turbidity, no odour
MW4075	13/01/2021	Q4	48.00		13.059	8.605	4.454	Good condition		9.67	2396.5	1437.9	2.44	24.0	-189.1	10.9	Milky White, Medium Turbidity, No odour
MW4075	06/08/2021	Q4	48.00		13.059	5.014	8.045	Good condition		9.22	2951.0	1918.15	4.07	17.7	-181.8	24.5	Grey, Turbid, Organic Odour
MW4075	31/01/2022	Q4	-	45 - 48	13.059	7.002	6.057	Good condition	46.1	-	-	-	-	-	-	#VALUE!	
MW4075	04/02/2022	Q4	48.00			7.116	5.943	Good condition		11.04	2899.2	1884.48	1.12	19.2	-207.3	-2.5	White, Turbid, No odour
MW4075	25/07/2022	Q4	-	45 - 48	13.059	4.715	8.344	Good condition	46.12	11.39	1823.0	1184.0	2.35	17.6	-126.9	79.5	Clear, No Turbidity, Calcium Odour
MW4075	16/02/2023	Q4	-	45 - 48	13.059	7.162	5.897	Good condition	46.12	7.85	11948	7766	2.13	22	-206.3	-4.3	Clear, Low turbidity, Rotten egg smell (sulfurous), No sheen
MW4075	10/07/2023	Q4	-	45 - 48	13.059	3.832	9.227	Good condition.		7.21	11571	7521.15	3.74	18	-122.8	83.2	Grey/black suspended sediment, low turbidity, organic odour.
MW4076	24/03/2020	Q2	17.91			2.543	5.399	Sediment on IP		6.88	15346.0	9207.6	2.64	19.7	183.2	387.5	Clear Low turbidity No odour
MW4076	23/07/2020	Q2	17.91		7.942	1.515	6.427	Sediment on IP		7.93	2920.0	1752.0	3.80	18.9	-222.7	-17.6	Black, medium turbidity, organic odour
MW4076	13/01/2021	Q2	18.00		7.942	1.865	6.077	Good condition		7.64	3534.0	2120.4	3.28	21.7	-192.7	9.6	Black, Medium Turbidity, Organic Odour
MW4076	03/08/2021	Q2	18.00		7.942	-	-	Could not access, submerged in water		Could not access							
MW4076	03/08/2021	Q2	-	15 - 18	7.942	-	-	Could not access, submerged in water	15.9	Could not access							
MW4076	28/07/2022	Q2	-	15 - 18	7.942	1.022	6.920	Good condition	15.91	7.46	1908.0	1240.0	2.67	18.5	-176.9	28.6	Black/ Grey, Organic Odour, Turbid
MW4076	15/02/2023	Q2	-	15 - 18	7.942	1.533	6.409	Good condition	15.91	7.07	1850	1202.5	1.13	21.9	-252.1	-50	Black, High turbidity, No odour, No sheen
MW4076	27/10/2023	Q2	-	15 - 18	7.942	1.333	6.609	Good condition.	15.91	6.7	1584	1029.6	3.86	20.9	-183.4	19.7	Black, Medium turbidity, No odour
MW4077	20/03/2020	Q2	17.95			2.497	7.735	Good condition		6.63	14053.0	8431.8	2.85	22.1	48.7	250.7	Light Brown Low turbidity No odour
MW4077	22/07/2020	Q2	17.95		10.232	1.995	8.237	Good condition		7.36	15220.9	9132.54	4.21	18.5	-201.2	4.3	Black, low turbidity, organic odour
MW4077	13/01/2021	Q2	18.00		10.232	2.060	8.172	Good condition		6.79	15901.6	9540.96	2.49	20.7	-6.2	197.1	Light Brown, Medium Turbidity, Organic Odour
MW4077	03/08/2021	Q2	18.00		10.232	1.957	8.275	Good condition		7.40	15689.0	10197.85	3.27	17.2	-104.9	101.9	Other, Medium Turbidity, Organic Odour
MW4077	02/02/2022	Q2	18.00	15 - 18	10.232	1.795	8.437	Good condition	16.0	7.20	13993.9	9096.035	1.98	21.7	-142.1	60.2	Black/ Grey, Medium Turbidity, Organic Odour
MW4077	27/07/2022	Q2	18.00	15 - 18	10.232	1.162	9.070	Good condition	15.95	7.82	9782.0	6358.0	1.25	18.2	-253.0	-47.2	Light Brown, Organic Odour, Low Turbidity
MW4077	15/02/2023	Q2	18.00	15 - 18	10.232	1.228	9.004	Good condition	15.95	7.1	12143	7892.95	1.87	22.3	-164.3	37.4	Clear, Low turbidity, No odour, No sheen
MW4077	11/07/2023	Q2	18.00	15 - 18	10.232	0.552	9.680	Good Condition		6.97	13190	8573.5	0.61	18.9	-172.9	32.2	Clear, Low turbidity, No odour.
MW4078	24/03/2020	Q4	54.30			14.084	-4.547	Sediment on IP, well was blocked with roots		7.02	18119.0	10871.4	4.84	20.2	175.9	379.7	Clear Low turbidity No odour
MW4078	22/07/2020	Q4	54.30		9.537	7.095	2.442	Good condition		7.32	20053.4	12032.04	3.32	18.5	-50.6	154.9	Clear, low turbidity, no odour
MW4078	13/01/2021	Q4	54.00		9.537	13.825	-4.288	Good condition		7.04	20649.6	12389.76	3.18	20.9	-13.9	189.3	Clear, Low Turbidity, No odour
MW4078	03/08/2021	Q4	54.00		9.537	5.681	3.856	Good condition		7.27	21076.0	13699.4	4.45	16.1	10.3	218.2	Clear, , No odour
MW4078	31/01/2022	Q4	53.20	51 - 54	9.537	12.114	-2.577	Good condition	52.3	6.10	18264.0	11871.6	4.31	22.7	184.0	385.3	Light Yellow, Low Turbidity, No odour
MW4078	25/07/2022	Q4	53.20	51 - 54	9.537	5.520	4.017	Good condition	52.30	8.31	12431.0	8080.0	1.39	19.8	101.8	306.0	Clear, Low Turbidity, No Odour
MW4078	15/02/2023	Q4	53.20	51 - 54	9.537	11.181	-1.644	Good condition	52.00	7.23	16378	10645.7	2.19	20.1	152.2	356.1	Clear, Low turbidity, No odour, No sheen
MW4078	10/07/2023	Q4	53.20	51 - 54	9.537	4.173	5.364	Good condition.		6.97	14598	9488.7	4.53	15.4	69.1	277.7	Clear, Low turbidity, No odour.
MW4079	26/03/2020	Q4	54.47			13.345	-3.840	Sediment on IP		11.58	130.2	78.12	3.85	23.5	-21.9	178.6	Light Brown Low turbidity No odour
MW4079	23/07/2020	Q4	54.47		9.505	6.065	3.440	Sediment on IP		12.51	1474.2	884.52	3.53	17.5	-62.3	144.2	Clear, low turbidity, no odour
MW4079	14/01/2021	Q4	57.00		9.505	11.695	-2.190	Good condition		4.90	13668.2	8200.9	4.88	20.9	-66.9	136.2	Milky White, Medium Turbidity, No odour
MW4079	05/08/2021	Q4	57.00		9.505	4.924	4.581	Good condition		12.89	13651.0	8873.15	7.43	17.1	41.3	248.3	Clear, Clear, No odour
MW4079	31/01/2022	Q4	57.01	52.5 - 57	9.505	9.830	-0.325	Good condition	55	12.22	12739.0	8280.35	5.51	19.9	-86.4	117.7	Clear, Low Turbidity, No odour
MW4079	28/07/2022	Q4	57.01	52.5 - 57	9.505	4.755	4.750	Good condition	55.00	12.43	9844.0	6398.0	3.89	18.1	-52.6	153.3	Clear, No odour, Low Turbidity
MW4079	15/02/2023	Q4	57.01	52.5 - 57	9.505	9.315	0.190	Good condition	55.00	12.18	10848	7051.2	4.12	21.2	-102.7	100.1	Light Grey, High turbidity, No odour, No sheen
MW4079	10/07/2023	Q4	57.01	52.5 - 57	9.505	3.263	6.242	Good condition.		12.56	10408	6765.2	5.25	18.2	-47.6	158.2	Clear, Low turbidity, No odour.

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH pH units	Electrical Conductivity µS/cm	Estimated TDS* mg/L	Dissolved Oxygen mg/L	Temperature °C	Redox Potential - Field mV	Redox Potential - Corrected	Comments
MW4218	19/08/2020	Q1	9.83		21.857	7.711	14.146	Good condition		6.63	23582.0	14149.2	1.25	17.4	169.6	376.2	Brown, medium turbidity, no odour
MW4218	12/01/2021	Q1	10.00		21.857	7.655	14.202	Good condition		6.99	23782.5	14269.5	3.09	24.7	16.4	215.7	Light Brown, Medium Turbidity, No odour
MW4218	02/08/2021	Q1	10.00		21.857	7.718	14.139	Good condition		6.90	16176.3	10514.595	1.97	17.4	-103.7	102.9	Light Brown, Medium Turbidity, No odour
MW4218	02/02/2022	Q1	9.70	7 - 10	21.857	7.363	14.494	Good condition	8.5	6.68	20314.0	13204.1	1.41	20.0	-115.0	89.0	Black/ Grey, Turbid, No odour
MW4218	27/07/2022	Q1	9.70	7 - 10	21.857	7.265	14.592	Good condition	8.50	6.71	17176.0	11164.0	1.09	19.7	-143.9	60.4	Black/ Grey, Organic Odour, Medium Turbidity
MW4218	1/02/2023	Q1	9.70	7 - 10	21.857	6.675	15.182	Good condition	8.50	6.77	19005	12353	2.18	21.1	-22.8	180.1	Brown, Medium turbidity, No odour, No sheen
MW4218	11/07/2023	Q1	9.70	7 - 10	21.857	6.446	15.411	Good Condition		6.75	18316	11905	2.01	16.73	-151.4	55.87	Clear, Low turbidity, No odour.
MW4219	23/07/2020	Q1	8.40		8.978	2.315	6.663	Good condition		7.66	14749.0	8849.4	3.57	19.1	23.4	228.3	Light brown, high turbidity, no odour
MW4219	13/01/2021	Q1	8.50		8.978	2.595	6.383	Good condition		7.53	11672.9	7003.7	3.86	21.2	4.2	207.0	Light Brown, Medium Turbidity, No odour
MW4219	03/08/2021	Q1	8.50		8.978	1.915	7.063	Good condition		7.55	11937.0	7759.05	4.23	18.3	102.7	308.4	Light Brown, Low Turbidity, No odour
MW4219	03/02/2022	Q1	8.50	5.5 - 8.5	8.978	2.123	6.855	Good condition	6.5	7.57	11494.1	7471.165	4.54	22.4	17.7	219.3	Light Brown, Low Turbidity, No odour
MW4219	28/07/2022	Q1	8.50	5.5 - 8.5	8.978	1.754	7.224	Good condition	6.50	7.70	8696.0	5652.0	4.31	20.5	-38.7	164.8	Light Brown, No odour, Medium Turbidity
MW4219	1/02/2023	Q1	8.50	5.5 - 8.5	8.978	2.048	6.930	Good condition	6.50	7.44	9671	6286	3.04	21.3	228.4	431.1	Clear, Low turbidity, , No sheen
MW4219	12/07/2023	Q1	8.50	5.5 - 8.5	8.978	1.492	7.486	Good Condition		7.51	8830	5739.5	3.06	20.8	49.7	252.9	Clear, Low turbidity, No odour.
MW4220	24/03/2020	T1	105.00		12.45	19.950	-7.500	Key from DEW required for access		6.92	1480.0	888.0	2.88	21.2	133.0	335.8	Clear Low turbidity No odour
MW4220	23/07/2020	T1	105.00		12.45	7.885	4.565	Key from DEW required for access		7.94	1502.7	901.6	2.12	20.7	-124.1	79.2	Clear, low turbidity, no odour
MW4220	13/01/2021	T1	105.00		12.45	15.540	-3.090	Key from DEW required for access		8.17	1051.4	630.81	2.41	23.1	-106.4	94.5	Clear, Low Turbidity, No odour
MW4220	03/08/2021	T1	105.00		12.45	6.366	6.084	Key from DEW required for access		7.76	1853.1	1204.5	4.33	18.0	-69.1	136.9	Clear, Low Turbidity, No odour
MW4220	03/02/2022	T1	105.00	94 - 107	12.45	4.460	7.990	Key from DEW required for access	103	8.72	1523.0	989.95	2.26	22.5	-149.6	51.9	Clear, Low Turbidity, No odour
MW4220	27/07/2022	T1	105.00	94 - 107	12.450	6.406	6.044	Key from DEW required for access	103.00	7.69	1346.0	874.0	1.20	20.8	-83.3	119.9	Clear, No odour, Low Turbidity
MW4220	1/02/2023	T1	105.00	94 - 107	12.450	12.406	0.044	Key from DEW required for access	103.00	7.59	1576	1024.4	2.11	21.9	-128.2	73.9	Black, High turbidity, No odour, No sheen
MW4220	12/07/2023	T1	105.00	94 - 107	12.450	4.287	8.163	Key from DEW required for access		7.51	1506	978.9	2.20	20.3	-122.6	81.1	Grey, Low turbidity, No odour.
MW4221	24/03/2020	T1	-		-	-	-	Good condition		7.15	1784.0	1070.4	4.21	20.8	123.1	326.3	Clear Low turbidity No odour
MW4221	24/07/2020	T1	-		-	-	-	Good condition		7.62	2045.6	1227.36	2.60	19.6	-53.8	150.6	Clear, low turbidity, no odour
MW4221	19/01/2021	T1	-		-	-	-	Good condition		6.14	2084.6	1250.76	3.46	19.5	118.3	322.8	Clear, No Turbidity, No Odour
MW4221	06/08/2021	T1	-		-	-	-	Good condition		7.70	2461.0	1599.65	3.87	18.0	-34.7	171.3	Clear, No odour
MW4221	04/02/2022	T1	-	96 - 110	-	-	-	Good condition	-	7.32	2005.0	1303.25	3.45	20.3	-49.1	154.6	Clear, Low Turbidity, No odour
MW4221	25/07/2022	T1	-	96 - 110	-	-	-	Good condition	-	7.76	1562.0	1015.0	3.59	20.9	54.9	258.0	Clear, No Turbidity, No Odour
MW4221	16/02/2023	T1	-	96 - 110	-		-	Good condition	-	7.4	1696	1102.4	3.50	24.8	-126.2	73	Clear, Low turbidity, No odour, No sheen
MW4221	12/07/2023	T1	-	96 - 110	-	-	-			7.87	1766	1147.9	1.73	15.8	-162.8	45.4	Clear, Low turbidity, No odour.
MW4222	24/03/2020	T1	-		-	-	-	Good condition		7.09	1374.0	824.4	3.17	19.9	105.6	309.7	Clear Low turbidity Septic
MW4222	24/07/2020	T1	-		-	-	-	Good condition		7.70	1269.8	761.88	1.71	19.1	-123.8	81.1	Clear, low turbidity, no odour
MW4222	19/01/2021	T1	-		-	-	-	Good condition		7.12	1356.0	813.6	3.91	21.3	44.5	247.2	Clear, No Turbidity, No Odour
MW4222	06/08/2021	T1	-		-	-	-	Good condition		7.63	1446.5	940.225	2.86	19.8	-87.2	117.0	Clear, No odour
MW4222	04/02/2022	T1	-	102 - 120	-	-	-	Good condition	-	7.40	1339.0	870.35	1.02	20.3	-76.6	127.2	Clear, Low Turbidity, No odour
MW4222	25/07/2022	T1	-	102 - 120	-	-	-	Good condition	-	7.66	1052.0	683.0	2.07	21.2	-65.4	137.4	Clear, No Turbidity, No Odour
MW4222	16/02/2023	T1	-	102 - 120	-		-	Good condition	-	7.52	1160	754	3.31	25.4	-15	183.6	Clear, Low turbidity, No odour, No sheen
MW4222	12/07/2023	T1	-	102 - 120	-	-	-			7.82	1099	714	1.94	18.7	-161	44.3	Clear, Low turbidity, No odour.
MW4223	24/03/2020	Q2	-		-	-	-	Good condition		6.84	5740.0	3444.0	2.78	18.8	121.3	326.5	Clear Low turbidity Slight Organic Odour
MW4223	24/07/2020	Q2	-		-	-	-	Good condition		6.92	5115.2	3069.12	6.78	12.3	25.3	237.0	Brown, medium turbidity, no odour
MW4223	15/01/2021	Q2	-		-	-	-	Good condition		7.84	3766.4	2259.852	2.81	20.4	-131.4	72.2	Clear, Low Turbidity, No odour
MW4223	03/08/2021	Q2	-		-	-	-	Good condition		6.40	5892.4	3830.06	5.63	19.4	37.4	242.0	Clear, Low Turbidity, No odour
MW4223	04/02/2022	Q2	-	23.8 - 27	-	-	-	Good condition	-	7.47	5581.0	3627.65	5.29	20.9	-51.4	151.7	Clear, No odour
MW4223	29/07/2022	Q2	-	23.8 - 27	-	-	-	Good condition	-	7.38	4117.0	2676.0	3.68	19.3	-37.9	166.8	Clear, No odour
MW4223	3/02/2023	Q2	-	23.8 - 27	-		-	Good condition, private bore	-	7.03	5598	3638.7	3.12	15	-5.8	203.2	Clear, Low turbidity, No odour, No sheen
MW4223	14/07/2023	Q2	-	23.8 - 27	-	-	-	Good condition, private bore		7.21	4495	2921.75	2.71	20	-91.2	112.8	Clear, Low turbidity, No odour.

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2112	0939_GW2112_S_170803	3/08/2017	557534	15	0.45	4.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.41	0.23	0.02	0.88	0.28	0.17	0.06	<0.01	<0.01	0.34	0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.4	22.49
MW2112	0939_GW2112_S_180628	28/06/2018	605771	7.1	0.17	1.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	0.09	<0.01	0.34	0.12	0.06	0.01	<0.01	<0.01	0.15	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8.8	10.01
MW2112	0939_MW2112_200323	23/03/2020	ES2010099	4.75	0.11	0.97	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.04	<0.02	0.18	0.08	0.04	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	5.72	6.33
MW2112	0939_MW2112_200721	21/07/2020	EM2012633	5.92	0.10	0.98	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.05	<0.02	0.18	0.12	0.04	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	6.90	7.58
MW2112	0939_MW2112_210114	14/01/2021	EM2100517	2.81	0.06	0.51	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.02	<0.02	0.10	0.07	0.03	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.32	3.71
MW2112	0939_MW2112_210812	12/08/2021	EM2116269	3.72	0.05	0.6	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.04	<0.04	<0.04	0.09	0.05	<0.04	<0.04	<0.04	<0.04	0.04	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	4.32	4.59
MW2112	0939_MW2112_220201	1/02/2022	EM2202065	2.23	0.05	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.07	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.65	2.91
MW2112	0939_MW2112_220725	25/07/2022	EM2214753	2.70	0.06	0.59	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.08	0.04	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	3.29	3.60
MW2112	0939_MW2112_230130	31/01/2023	EM2302832	2.56	0.05	0.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.02	<0.02	0.07	0.04	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.08	3.35
MW2112	0939_MW2112_230710	10/07/2023	EM2312858-AE	3.09	0.07	0.85	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.02	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.94	4.41
MW2114	0939_GW2114_S_170803	3/08/2017	557534	7.2	0.68	5.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.72	0.2	<0.01	1.2	0.39	0.28	<0.01	<0.01	<0.01	0.67	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	12.4	16.7
MW2114	0939_GW2114_S_180629	29/06/2018	605762	35	3.3	24	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	3.8	1.3	0.02	6.4	2.1	1.5	<0.01	<0.01	<0.01	4.4	0.85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	59	82.79
MW2114	0939_MW2114_200325	25/03/2020	ES2010468	55.1	5.44	33.1	<0.05	0.18	<0.05	<0.05	<0.05	<0.05	<0.12	7.18	2.10	<0.05	10.4	4.08	2.44	<0.05	<0.05	<0.05	7.35	0.6	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	88.2	128
MW2114	0939_MW2114_200721	21/07/2020	EM2012633	106	8.56	59.4	<0.05	0.30	<0.05	<0.05	<0.05	<0.05	<0.12	13.5	3.46	<0.05	18.5	6.60	4.28	<0.05	<0.05	<0.05	11.8	2.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	165	235
MW2114	0939_MW2114_210112	12/01/2021	EM2100359	104	8.78	63.9	<0.05	0.36	<0.05	<0.05	<0.04	<0.04	<0.10	13.3	3.31	<0.04	17.0	6.91	4.47	<0.04	<0.04	<0.04	12.3	2.2	<0.10	<0.10	<0.10	<0.10	<0.04	<0.04	168	236
MW2114	0939_MW2114_210802	2/08/2021	EM2115885	108	11.3	67.6	<0.05	0.43	<0.05	<0.05	<0.04	<0.04	<0.09	11.2	3.9	<0.04	21.7	8.72	4.62	<0.04	<0.04	<0.04	14.8	2.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	176	254
MW2114	0939_MW2114_220201	1/02/2022	EM2202065	138	12.2	75.2	<0.05	0.51	<0.05	<0.05	<0.04	<0.04	<0.1	21.1	4.68	<0.04	24.8	12.5	6.44	<0.04	<0.04	<0.04	18.3	1.9	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	213	316
MW2114	0939_MW2114_220726	26/07/2022	EM2214753	130	12.2	83.0	<0.05	0.57	<0.05	<0.05	<0.03	<0.03	<0.08	17.8	4.79	0.04	22.2	10.8	6.28	<0.03	<0.03	<0.03	17.0	2.2	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	213	307
MW2114	0939_MW2114_230131	31/01/2023	EM2302832	190	21.1	116	<0.05	0.86	<0.05	<0.05	<0.04	<0.04	<0.09	26	7.96	0.1	36.7	14.3	10.7	<0.04	<0.04	<0.04	30.8	4	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	306	458
MW2114	0939_MW2114_230711	11/07/2023	EM2312858-AE	525	56.1	309	<0.05	2.24	0.18	<0.05	<0.04	<0.04	<0.09	74.1	23.6	0.24	113	38.8	28.8	0.13	<0.04	<0.04	74.9	10.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	834	1260
MW2116	0939_GW2116_S_170727	27/07/2017	556590	14,000	500	9,100	<20	<20	<20	<20	<20	<20	<20	1,100	380	<20	1,900	710	220	<20	<20	<20	1,200	290	<20	<20	<20	<20	<20	<20	23,100	29,400
MW2116	0939_GW2116_S_180629	29/06/2018	605762	6,400	310	4,800	<2	<2	<2	<2	<2	<2	<2	590	230	<2	1,200	350	130	<2	<2	<2	550	150	<2	<2	<2	<2	<2	<2	11,200	14,710
MW2116	0939_MW2116_200324	24/03/2020	ES2010468	13,000	582	9,980	<0.50	0.70	<0.50	<0.50	<0.50	<0.50	<1.25	1,250	392	3.30	2,040	805	222	<0.50	<0.50	<0.50	919	84.0	<1.25	<1.25	<1.25	<1.25	<0.50	3.65	23,000	29,300
MW2116	0939_MW2116_200721	21/07/2020	EM2012633	13,200	638	10,200	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	1,450	479	<5.00	2,130	841	292	<5.00	<5.00	<5.00	1,090	281	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	23,400	30,600
MW2116	0939_MW2116_210112	12/01/2021	EM2100359	7,320	219	3,710	<0.05	0.33	0.17	<0.05	<0.04	<0.04	<0.09	436	143	1.06	734	304	100	0.45	<0.04	0.17	348	53.7	<0.09	<0.09	<0.09	<0.09	<0.04	3.92	11,000	13,400
MW2116	0939_MW2116_210802	2/08/2021	EM2115885	6860	192	2700	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.93	263	115	0.44	674	250	74.9	<0.37	<0.37	<0.37	277	20.3	<0.93	<0.93	<0.93	<0.93	<0.37	<0.37	9,560	11,400
MW2116	0939_MW2116_220204	4/02/2022	EM2202066	6130	194	2730	<0.38	1.03	<0.38	<0.38	<0.38	<0.38	<0.94	356	132	0.98	594	226	80.6	<3.77	<0.38	<0.38	308	30.1	<0.94	<0.94	<0.94	<0.94	<0.38	2.87	8,860	10,800
MW2116	0939_MW2116_220726	26/07/2022	EM2214753	6,900	385	6,700	<0.36	0.89	<0.36	<0.36	<0.36	<0.36	<0.90	877	237	0.63	1,180	407	172	3.28	<0.36	<0.36	584	51.2	<0.90	<0.90	<0.36	<0.90	<0.36	9.45	13,600	17,500
MW2116	0939_MW2116_230131	31/01/2023	EM2302832	5190	371	6010	<0.35	0.74	<0.35	<0.35	<0.35	<0.35	<0.87	975	240	2.04	1150	426	191	1.79	<0.35	<0.35	660	46.7	<0.87	<0.87	<0.87	<0.87	<0.35	4.22	11200	15300
MW2116	0939_MW2116_231027	27/10/2023	EM2319686	6230	417	6010	<0.36	0.4	<0.36	<0.36	<0.36	<0.36	<0.9	922	219	2.4	996	576	181	1.43	<0.36	<0.36	534	30.4	<0.9	<0.9	<0.9	<0.9	<0.36	4.45	12200	16,100
MW2120	0939_GW2120_S_170725	25/07/2017	556151	190	3.2	20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.5	0.99	<0.2	4.4	3	0.7	<0.2	<0.2	<0.2	2.1	0.52	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	210	227.41
MW2120	0939_GW2120_S_180627	27/06/2018	605360	240	2.3	24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.1	1.2	<0.2	4.9	3.0	0.65	<0.2	<0.2	<0.2	2.5	0.61	<0.2	<0.2	<0.2	<0.2	<0.2	0.90	264	282.16
MW2120	0939_MW2120_200323	23/03/2020	ES2010099	43.0	0.85	6.66	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.08	0.28	<0.05	1.52	0.64	0.22	0.57	<0.05	<0.05	0.82	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	1.43	49.7	57.1
MW2120	0939_MW2120_200720	20/07/2020	EM2012633	73.6	1.07	7.70	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.33	0.38	<0.05	2.15	0.92	0.32	1.10	<0.05	<0.05	0.85	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	1.60	81.3	91.0
MW2120	0939_MW2120_210111	11/01/2021	EM2100359	36.0	0.85	5.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.78	0.28	<0.02	1.46	0.99	0.24	0.36	<0.02	<0.02	0.62	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.74	41.9	48.5
MW2120	0939_MW2120_210813	13/08/2021	EM2116269	37.7	0.44	2.48	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.19	0.06	<0.04	0.37	0.62	0.07	0.52	<0.04	<0.04	0.15	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.48	40.2	43.1
MW2120	0939_MW2120_220131	31/01/2022	EM2201740	31.9	0.68	2.96	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.2	0.11	<0.02	0.66	0.63	0.13	0.33	<0.02	<0.02	0.19	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.56	34.9	38.4
MW2120	0939_MW2120_220726	26/07/2022	EM2214753	48.2	0.62	3.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.07	<0.02	0.35	1.12	0.09	0.36	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	0.46	51.4	54.8
MW2120	0939_MW2120_230130	30/01/2023	EM2302832	143	6.21	60.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	4.11	0.77	<0.04	5.32	8.39	1.23	<0.04	<0.04	<0.04	2.33	0.2	<0.09	<0.09	<0.09	<0.09	<0.04	0.82	204	233
MW2120	0939_MW2120_230710	10/07/2023	EM2312858-AE	333	23	280	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	36	11.2	0.15	61	24.2	8.68	0.56	<0.04	<0.04	29.7	3.6	<0.09	<0.09	<0.09	<0.09	<0.04	0.74	613	812
MW2126	0939_GW2126_170707	7/07/2017	553492	1.4	0.05	0.94	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.04	<0.01	0.2	0.08	0.03	<0.01	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.34	2.96
MW2126	0939_GW2126_I_170719	19/07/2017	555189	1.1	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.04	<0.01	0.19	0.07	0.03	<0.01	<0.01	<0.01	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.2	2.78
MW2126	0939_GW2126_I_180626	26/06/2018	605137	1.0	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.04	<0.01	0.20	0.05	0.03	<0.01	<0.01	<0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.1	2.7
MW2126	0939_MW2126_200323	23/03/2020	ES2010099	0.68	0.05	1.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.04	<0.02	0.21	0.08	0.03	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.71	2.36
MW2126	0939_MW2126_200720	20/07/2020	EM2012633	1.15	0.07	1.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.22	0.06	<0.02	0.30	0.12	0.04	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.50	3.48
MW2126	0939_MW2126_210111	11/01/2021	EM2100359	0.41	0.03	0.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.23	1.58
MW2126	0939_MW2126_210812	12/08/2021	EM2116269	0.62	0.04	0.88	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.04	<0.02	0.2	0.06	0.03	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.5	2.11
MW2126	0939_MW2126_220201	1/02/2022	EM2201740	0.52	0.03	0.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.03	<0.02	0.16	0.06	0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.27	1.78
MW2126	0939_MW2126_220725	25/07/2022	EM2214753	0.54	0.04	0.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.03	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.10	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.26	1.75
MW2126	0939_MW2126_230130	31/01/2023	EM2302832	0.42	0.03	0.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.04	<0.02	0.14	0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.07	1.47
MW2126	0939_MW2126_230710	10/07/2023	EM2312858-AE	0.46	0.03	0.61	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.02	<0.02	0.16	0.04	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.07	1.49
MW2129	0939_GW2129_170620	20/06/2017	551064	0.73	1.7	34	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.1	0.29	<0.01	2.5	0.64	0.55	<0.01	<0.01	<0.01	0.21	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	34.73	41.84
MW2129	0939_GW2129_S_170725	25/07/2017	556151	0.93	1.2	28	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	0.23	<0.01	1.9	0.36	0.46	<0.01	<0.01	<0.01	0.15	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	28.93	34.23
MW2129	0939_GW2129_S_180625	25/06/2018	604919	11	3.6	63	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.9	0.66	0.02	4.9	2.0	0.99	<0.01	<0.01	<0.01	0.40	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	74	88.65
MW2129	0939_MW2129_200324	24/03/2020	ES2010468	19.5	3.82	78.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	4.70	0.98	<0.05	8.38	2.24	1.30	<0.05	<0.05	<0.05	0.91	0.3	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	98.3	121
MW2129	0939_MW2129_200720	20/07/2020	EM2012633	12.2	1.41	35.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.64	0.36	<0.02	3.06	0.95	0.58	<0.02	<0.02	<0.02	0.31	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	47.2	55.6
MW2129	0939_MW2129_210111	11/01/2021	EM2100359	8.29	1.35	32.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.04	0.54	<0.02	4.47	0.71	0.75	<0.02	<0.02	<0.02	0.40	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	40.4	50.6
MW2129	0939_MW2129_210812	12/08/2021	EM2116269	3.02	0.44	12.7	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.61	0.22	<0.04	1.82	0.2	0.19	<0.04	<0.04	<0.04	0.24	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	15.7	19.4

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2129	0939_MW2129_220131	31/01/2022	EM2201740	2.48	0.43	7.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.56	0.4	<0.02	2.79	0.14	0.23	<0.02	<0.02	<0.02	0.52	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	9.51	14.7
MW2129	0939_MW2129_220725	25/07/2022	EM2214753	2.53	0.67	16.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.09	0.36	<0.02	2.91	0.26	0.32	<0.02	<0.02	<0.02	0.42	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	19.3	25.4
MW2129	0939_MW2129_230130	30/01/2023	EM2302832	5.16	0.95	20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.08	0.42	<0.02	3.09	0.58	0.34	<0.02	<0.02	<0.02	0.45	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	25.2	32.2
MW2129	0939_MW2129_230710	10/07/2023	EM2312858-AE	8.08	1.45	25.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.92	0.31	<0.02	2.98	0.66	0.36	<0.02	<0.02	<0.02	0.25	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	33.3	40.2
MW2130	0939_GW2130_S_170726	26/07/2017	556590	660	41	190	<0.01	1.1	0.27	<0.01	0.08	<0.01	<0.01	27	26	0.85	140	21	20	<0.01	<0.01	0.14	31	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	850	1,178.44
MW2130	0939_GW2130_S_180629	29/06/2018	605762	910	43	250	<2	<2	<2	<2	<2	<2	<2	27	28	<2	160	19	23	<2	<2	<2	30	25	<2	<2	<2	<2	<2	<2	1,160	1,515
MW2130	0939_MW2130_200325	25/03/2020	ES2010468	538	39.3	132	<0.05	1.08	0.50	<0.05	<0.05	<0.05	<0.12	23.2	26.0	0.86	126	18.9	19.4	1.01	<0.05	0.20	19.4	12.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.66	670	959
MW2130	0939_MW2130_200721	21/07/2020	EM2012633	774	44.1	161	<0.50	1.40	<0.50	<0.50	<0.50	<0.50	<1.25	23.8	34.6	1.00	173	15.4	24.6	<0.50	<0.50	<0.50	21.2	26.2	<1.25	<1.25	<1.25	<1.25	<0.50	0.75	935	1,300
MW2130	0939_MW2130_210112	12/01/2021	EM2100359	420	20.8	90.3	<0.05	0.75	0.35	<0.05	<0.04	<0.04	<0.10	14.2	14.7	0.60	73.4	14.0	12.8	0.86	<0.04	0.15	11.4	8.9	<0.10	<0.10	<0.10	<0.10	<0.04	0.32	510	684
MW2130	0939_MW2130_210802	2/08/2021	EM2115885	334	17.6	74	<0.05	0.68	0.31	<0.05	<0.04	<0.04	<0.09	7.73	11.5	0.58	64	10.9	9.18	0.52	<0.04	0.15	9.37	3.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.26	408	544
MW2130	0939_MW2130_220201	1/02/2022	EM2202065	265	11.7	51.2	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.94	7.48	7.91	<0.38	37.6	5.01	6.61	<0.38	<0.38	<0.38	7.52	<1.9	<0.94	<0.94	<0.94	<0.94	<0.38	<0.38	316	400
MW2130	0939_MW2130_220726	26/07/2022	EM2214753	227	8.45	49.2	<0.05	0.30	0.19	<0.05	<0.04	<0.04	<0.09	7.45	5.31	0.25	24.9	6.75	4.31	0.94	<0.04	0.12	5.79	2.2	<0.09	<0.09	<0.04	<0.09	<0.04	0.18	276	343
MW2130	0939_MW2130_230131	31/01/2023	EM2302832	225	9.32	46.4	<0.05	0.34	0.18	<0.05	<0.04	<0.04	<0.09	7.99	5.96	0.3	32.1	4.76	4.89	1.13	<0.04	0.12	6.77	1.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.34	271	347
MW2130	0939_MW2130_230711	11/07/2023	EM2312858-AE	129	5.99	30.9	<0.05	0.18	0.26	<0.05	<0.02	<0.02	<0.05	4.51	3.64	0.16	16.1	3.68	2.67	0.96	<0.02	0.09	4.21	1.6	<0.05	<0.05	<0.05	<0.05	<0.02	0.3	160	204
MW2131	0939_GW2131_S_170726	26/07/2017	556590	550	4.5	44	<0.01	0.14	0.13	<0.01	<0.01	<0.01	<0.01	3.8	7.3	0.49	14	3.3	2.9	<0.01	<0.01	0.24	2.8	3	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	594	637.04
MW2131	0939_GW2131_S_180629	29/06/2018	605762	280	4.5	26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.8	3.8	0.25	14	0.77	2.4	<0.2	<0.2	<0.2	1.6	1.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	306	337.02
MW2131	0939_MW2131_200325	25/03/2020	ES2010468	99.3	8.60	20.3	<0.05	1.64	<0.05	<0.05	<0.05	<0.05	<0.12	1.78	5.15	0.12	12.9	0.66	3.56	0.06	<0.05	<0.05	1.37	1.4	<0.12	<0.12	<0.12	<0.12	<0.05	1.00	120	158
MW2131	0939_MW2131_200721	21/07/2020	EM2012633	113	11.7	19.8	<0.10	3.70	<0.10	<0.10	<0.10	<0.10	<0.25	1.79	6.22	0.11	16.1	0.56	4.14	<0.10	<0.10	<0.10	1.28	2.0	<0.25	<0.25	<0.25	<0.25	<0.10	0.84	133	181
MW2131	0939_MW2131_210112	12/01/2021	EM2100359	106	5.97	11.7	<0.05	1.66	<0.05	<0.05	<0.04	<0.04	<0.10	0.97	3.08	0.11	6.48	0.42	2.24	<0.04	<0.04	<0.04	0.65	0.8	<0.10	<0.10	<0.10	<0.10	<0.04	0.34	118	140
MW2131	0939_MW2131_210802	2/08/2021	EM2115885	125	8.21	19.1	<0.05	2.29	0.06	<0.05	<0.04	<0.04	<0.1	1.63	4.97	0.1	12.1	1	2.86	0.04	<0.04	<0.04	1.58	0.9	<0.1	<0.1	<0.1	<0.1	<0.04	0.66	144	180
MW2131	0939_MW2131_220201	1/02/2022	EM2202065	118	7.26	16.9	<0.05	1.8	0.06	<0.05	<0.04	<0.04	<0.09	1.68	4.27	0.12	9.63	0.7	2.89	<0.04	<0.04	<0.04	1.3	0.9	<0.09	<0.09	<0.09	<0.09	<0.04	0.5	135	166
MW2131	0939_MW2131_220726	26/07/2022	EM2214753	200	6.59	17.0	<0.05	1.30	0.11	<0.05	<0.03	<0.03	<0.08	1.34	4.08	0.15	9.57	0.62	2.34	0.11	<0.03	0.04	1.03	1.1	<0.08	<0.08	<0.03	<0.08	<0.03	0.72	217	246
MW2131	0939_MW2131_230131	31/01/2023	EM2302832	229	3.98	14.4	<0.05	0.37	0.12	<0.05	<0.04	<0.04	<0.09	1.36	1.93	0.19	5.32	1.27	1.14	0.15	<0.04	0.06	0.98	0.7	<0.09	<0.09	<0.09	<0.09	<0.04	1.48	243	262
MW2131	0939_MW2131_230711	11/07/2023	EM2312858-AE	192	4.73	10.7	<0.05	0.52	0.15	<0.05	<0.02	<0.02	<0.05	1.27	2.53	0.13	7.17	1.73	1.3	0.46	<0.02	0.04	0.65	0.8	<0.05	<0.05	<0.05	<0.05	<0.02	2.23	203	226
MW2134	0939_GW2134_S_170728	28/07/2017	556791	0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW2134	0939_GW2134_S_180627	27/06/2018	605360	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2134	0939_MW2134_200320	20/03/2020	ES2010099	0.38	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.44	0.44
MW2134	0939_MW2134_200721	21/07/2020	EM2012633	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2134	0939_MW2134_210112	12/01/2021	EM2100359	0.02	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.05	0.05
MW2134	0939_MW2134_210802	2/08/2021	EM2115885	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.04
MW2134	0939_MW2134_220202	2/02/2022	EM2202065	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.05	0.05
MW2134	0939_MW2134_220726	26/07/2022	EM2214753	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.06	0.08
MW2134	0939_MW2134_230131	31/01/2023	EM2302832	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW2134	0939_MW2134_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07
MW2135	0939_GW2135_S_170719	19/07/2017	555189	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1
MW2135	0939_GW2135_S_180628	28/06/2018	605771	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2135	0939_MW2135_200325	25/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW2135	0939_MW2135_200721	21/07/2020	EM2012633	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW2135	0939_MW2135_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2135	0939_MW2135_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2135	0939_MW2135_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2135	0939_MW2135_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2135	0939_MW2135_230322	22/03/2023	EM2305133	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2135	0939_MW2135_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2137	0939_GW2137_170620	20/06/2017	551064	6.5	0.2	4.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.45	0.16	<0.01	0.67	0.18	0.08	<0.01	<0.01	<0.01	0.46	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	11.1	13.42
MW2137	0939_GW2137_S_170803	3/08/2017	557534	9.9	0.27	7.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.61	0.18	<0.01	0.81	0.24	0.1	0.12	<0.01	<0.01	0.48	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.3	20.25
MW2137	0939_GW2137_S_180625	25/06/2018	604919	13	0.35	12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.9	0.28	<0.01	1.6	0.60	0.14	0.03	<0.01	<0.01	1.1	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	25	31.16
MW2137	0939_MW2137_200323	23/03/2020	ES2010099	15.7	0.54	22.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.53	0.45	<0.02	3.00	1.28	0.26	0.04	<0.02	<0.02	1.94	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	38.1	49.4
MW2137	0939_MW2137_200720	20/07/2020	EM2012633	16.8	0.56	22.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.66	0.49	<0.02	2.74	0.78	0.28	<0.02	<0.02	<0.02	1.79	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	38.8	48.3
MW2137	0939_MW2137_210111	11/01/2021	EM2100359	11.8	0.41	14.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.51	0.27	<0.02	1.71	0.58	0.19	<0.02	<0.02	<0.02	1.20	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	26.0	32.3
MW2137	0939_MW2137_210812	12/08/2021	EM2116269	9.98	0.36	13.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	1.44	0.2	<0.04	1.34	0.53	0.14	<0.04	<0.04	<0.04	0.86	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	23.4	28.2
MW2137	0939_MW2137_220131	31/01/2022	EM2201740	8.81	0.35	10.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.47	0.22	<0.02	1.29	0.47	0.12	<0.02	<0.02	<0.02	0.75	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	19.3	24.1
MW2137	0939_MW2137_220725	25/07/2022	EM2214753	11.0	0.34	11.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.28	0.21	<0.02	1.27	0.51	0.15	<0.02	<0.02	<0.02	0.84	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	22.7	27.3
MW2137	0939_MW2137_230322	22/03/2023	EM2305133	10.4	0.34	12.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.04	0.25	<0.02	1.45	0.62	0.16	<0.02	<0.02	<0.02	1.08	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	22.6	28.7
MW2137	0939_MW2137_230710	10/07/2023	EM2312858-AE	11.1	0.32	14.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.12	0.23	<0.02	1.81	0.61	0.14	<0.02	<0.02	<0.02	0.97	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	25.2	31.4
MW2139	0939_GW2139_170620	20/06/2017	551064	0.03	<0.01	0.28	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.31	0.38
MW2139	0939_GW2139_S_170725	25/07/2017	556151	0.04	<0.01	0.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	0.53
MW2139	0939_GW2139_S_180625	25/06/2018	604919	<0.01	<0.01	0.25	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	0.32

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2139	0939_MW2139_200324	24/03/2020	ES2010468	<0.01	<0.01	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.22	0.25
MW2139	0939_MW2139_200720	20/07/2020	EM2012633	0.01	<0.01	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.24	0.26
MW2139	0939_MW2139_210111	11/01/2021	EM2100359	<0.01	<0.01	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.17	0.17
MW2139	0939_MW2139_210812	12/08/2021	EM2116269	<0.01	<0.01	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.17	0.17
MW2139	0939_MW2139_220131	31/01/2022	EM2201740	<0.01	<0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.13	0.13
MW2139	0939_MW2139_220725	25/07/2022	EM2214753	<0.01	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.16	0.16
MW2139	0939_MW2139_230130	30/01/2023	EM2302832	<0.01	<0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.15	0.15
MW2139	0939_MW2139_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.15	0.15
MW2145	0939_GW2145_I_180625	25/06/2018	604919	0.84	0.02	0.66	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.10	0.02	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.5	1.78
MW2145	0939_MW2145_200324	24/03/2020	ES2010468	0.93	0.04	0.66	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.03	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.59	2.01
MW2145	0939_MW2145_200720	20/07/2020	EM2012633	1.41	0.05	1.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.15	0.03	<0.02	0.20	0.06	0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.45	3.05
MW2145	0939_MW2145_210111	11/01/2021	EM2100359	0.88	0.03	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.10	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.64	1.95
MW2145	0939_MW2145_210812	12/08/2021	EM2116269	0.9	0.03	0.69	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.59	2.04
MW2145	0939_MW2145_220131	31/01/2022	EM2201740	0.87	0.03	0.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.45	1.83
MW2145	0939_MW2145_220725	25/07/2022	EM2214753	0.91	0.03	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.55	1.84
MW2145	0939_MW2145_230130	30/01/2023	EM2302832	0.85	0.03	0.66	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.11	0.04	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.51	1.81
MW2145	0939_MW2145_230710	10/07/2023	EM2312858-AE	0.82	0.03	0.67	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.15	0.04	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.49	1.89
MW2148	0939_GW2148_S_170725	25/07/2017	556151	520	31	350	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	46	16	0.19	78	36	13	<0.2	<0.2	<0.2	43	11	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	870	1,144.19
MW2148	0939_GW2148_S_180628	28/06/2018	605771	200	11	160	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	26	7.0	<0.2	36	15	4.6	<0.2	<0.2	<0.2	23	4.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	360	487.3
MW2148	0939_MW2148S_190228	28/02/2019	EM1903143	566	30.1	294	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	56.7	17.4	<1.00	98.7	32.1	14.9	<1.00	<1.00	<1.00	47.9	11.9	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	860	1,170
MW2148	0939_MW2148S_190801	1/08/2019	ES1924554	146	7.18	110	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	14.6	5.46	0.04	24.8	10.1	4.22	<0.02	<0.02	<0.02	14.6	1.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	256	338
MW2148	0939_MW2148_200325	25/03/2020	ES2010468	233	11.0	202	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	28.7	6.01	0.03	29.8	19.4	3.83	<0.02	<0.02	<0.02	20.5	2.8	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	435	557
MW2148	0939_MW2148_200721	22/07/2020	EM2012633	166	10.6	184	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	26.4	6.92	<0.05	39.4	13.6	5.28	<0.05	<0.05	<0.05	21.9	3.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	350	478
MW2148	0939_MW2148_210112	12/01/2021	EM2100359	156	11.0	205	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	32.9	6.04	<0.04	33.9	13.0	5.61	<0.04	<0.04	<0.04	23.8	3.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.04	361	491
MW2148	0939_MW2148_210802	2/08/2021	EM2115885	303	25.4	376	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	54	14.4	<0.04	80.1	31.3	10.7	<0.04	<0.04	<0.04	54.7	3.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	679	953
MW2148	0939_MW2148_220131	31/01/2022	EM2201740	640	18	205	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	27.1	6.08	<0.39	30.7	24.6	6.43	<0.39	<0.39	<0.39	23.4	<2	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	845	981
MW2148	0939_MW2148_220725	25/07/2022	EM2214753	588	31.8	368	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.88	49.3	13.2	<0.35	67.3	33.2	12.1	<0.35	<0.35	<0.35	46.2	5.7	<0.88	<0.88	<0.35	<0.88	<0.35	<0.35	956	1,210
MW2148	0939_MW2148_230131	31/01/2023	EM2302832	684	43.3	523	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.88	89	18.5	<0.35	94.5	51.8	17	<0.35	<0.35	<0.35	76	5.5	<0.88	<0.88	<0.88	<0.88	<0.35	0.37	1210	1600
MW2148	0939_MW2148_230712	12/07/2023	EM2312858-AE	755	53.3	620	<0.05	0.06	<0.05	<0.05	<0.04	<0.04	<0.09	101	23.8	0.3	117	67.2	21.2	0.18	<0.04	<0.04	75.2	8.1	<0.09	<0.09	<0.09	<0.09	<0.04	0.31	1380	1840
MW2149	0939_GW2149_S_170725	25/07/2017	556151	180	14	140	<0.2	0.85	<0.2	<0.2	<0.2	<0.2	<0.2	19	10	<0.2	46	9.4	6.4	<0.2	<0.2	<0.2	19	6.8	<0.2	<0.2	<0.2	<0.2	<0.2	0.47	320	451.92
MW2149	0939_GW2149_S_180628	28/06/2018	605771	120	8.7	84	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	7.4	<0.2	32	6.2	3.7	<0.2	<0.2	<0.2	14	4.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	204	294.2
MW2149	0939_MW2149_200323	23/03/2020	ES2010099	64.0	6.42	69.0	<0.05	0.42	<0.05	<0.05	<0.05	<0.05	<0.12	14.6	6.14	<0.05	28.8	5.15	3.40	<0.05	<0.05	<0.05	14.1	2.5	<0.12	<0.12	<0.12	<0.12	<0.05	0.20	133	215
MW2149	0939_MW2149_200721	21/07/2020	EM2012633	160	11.6	107	<0.05	0.77	<0.05	<0.05	<0.05	<0.05	<0.12	21.1	10.1	<0.05	44.8	8.90	5.62	<0.05	<0.05	<0.05	17.4	5.2	<0.12	<0.12	<0.12	<0.12	<0.05	0.39	267	393
MW2149	0939_MW2149_210114	14/01/2021	EM2100517	88.3	2.30	12.7	<0.05	0.26	<0.05	<0.05	<0.02	<0.02	<0.05	1.76	2.83	<0.02	3.89	1.37	2.73	<0.02	<0.02	<0.02	1.39	3.5	<0.05	<0.05	<0.05	<0.05	<0.02	0.08	101	121
MW2149	0939_MW2149_210812	12/08/2021	EM2116269	137	8.23	68.4	<0.05	0.59	<0.05	<0.05	<0.04	<0.04	<0.09	13	6.02	<0.04	26.7	6.3	3.72	<0.04	<0.04	<0.04	10.4	2.1	<0.09	<0.09	<0.09	<0.09	<0.04	0.14	205	283
MW2149	0939_MW2149_220201	1/02/2022	EM2202065	57.7	5.73	66.5	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.1	13.4	4.42	<0.04	20.7	5.18	3.15	<0.04	<0.04	<0.04	9.77	1.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.09	124	188
MW2149	0939_MW2149_220726	26/07/2022	EM2214753	108	8.58	108	<0.05	0.36	<0.05	<0.05	<0.03	<0.03	<0.08	15.9	4.88	0.04	21.5	8.30	3.95	<0.03	<0.03	<0.03	9.43	1.6	<0.08	<0.08	<0.03	<0.08	<0.03	0.14	216	291
MW2149	0939_MW2149_230130	31/01/2023	EM2302832	139	9.21	88.3	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.09	13.5	3.98	0.05	21	10.3	3.21	<0.04	<0.04	<0.04	8.03	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	0.31	227	298
MW2149	0939_MW2149_230707	7/07/2023	EM2312858-AE	227	9.43	92.6	<0.05	0.17	<0.05	<0.05	<0.04	<0.04	<0.09	9.51	3.3	0.09	16.8	12.5	2.99	<0.04	<0.04	<0.04	7.34	1	<0.09	<0.09	<0.09	<0.09	<0.04	0.36	320	383
MW2150	0939_GW2150_S_170724	24/07/2017	556166	17	0.17	3.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	0.1	<0.01	0.39	0.16	0.05	<0.01	<0.01	<0.01	0.17	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	20.7	22.07
MW2150	0939_GW2150_S_180626	26/06/2018	605137	21	0.14	4.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	0.13	<0.01	0.38	0.13	0.05	<0.01	<0.01	<0.01	0.21	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	25	26.26
MW2150	0939_MW2150_200324	24/03/2020	ES2010468	14.8	0.16	5.77	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.44	0.10	<0.05	0.54	0.26	0.06	<0.05	<0.05	<0.05	0.26	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	20.6	22.4
MW2150	0939_MW2150_200721	21/07/2020	EM2012633	16.6	0.18	5.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.50	0.13	<0.02	0.58	0.42	0.07	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	21.9	24.0
MW2150	0939_MW2150_210205	5/02/2021	EM2101800	9.88	0.15	4.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.33	0.1	<0.02	0.49	0.39	0.06	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	14	15.8
MW2150	0939_MW2150_210812	12/08/2021	EM2116269	9.96	0.12	4.29	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.34	0.09	<0.04	0.54	0.22	0.05	<0.04	<0.04	<0.04	0.19	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	14.2	15.8
MW2150	0939_MW2150_220201	1/02/2022	EM2202065	9.6	0.13	3.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.1	<0.02	0.48	0.17	0.06	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	13.4	14.9
MW2150	0939_MW2150_220725	25/07/2022	EM2214753	10.7	0.12	4.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.08	<0.02	0.39	0.23	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	14.9	16.3
MW2150	0939_MW2150_230130	31/01/2023	EM2302832	11.7	0.11	3.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.06	<0.02	0.29	0.22	0.04	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	15.2	16.3
MW2150	0939_MW2150_230707	7/07/2023	EM2312858-AE	9.61	0.08	2.71	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.05	<0.02	0.31	0.17	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.3	13.2
MW2157	0939_GW2157_170704	4/07/2017	552803	14	0.3	5.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.52	0.16	<0.01	1.1	0.37	0.15	<0.01	<0.01	<0.01	0.44	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.3	22.45
MW2157	0939_GW2157_I_170803	3/08/2017	557534	13	0.29	4.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.46	0.16	<0.01	0.84	0.31	0.12	<0.01	<0.01	<0.01	0.43	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.7	20.42
MW2157	0939_GW2157_I_180629	29/06/2018	605762	18	0.38	6.5	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.71	0.29	<0.01	1.8	0.42	0.18	<0.01	<0.01	<0.01	1.2	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	24.5	29.65
MW2157	0939_MW2157_200325	24/03/2020	ES2010468	15.5	0.36	5.58	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	0.66	0.22	<0.02	1.15	0.51	0.15	<0.02	<0.02	<0.02	0.61	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	21.1	25.0
MW2157	0939_MW2157_200721	21/07/2020	EM2012633	12.1	0.34	4.60	<0.05	0.09	<0.05	<0.05	<0.02	<0.02	<0.05	0.69	0.18	<0.02	0.98	0.50	0.13	<0.02	<0.02	<0.02	0.54	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	16.7	20.2
MW2157	0939_MW2157_210112	12/01/2021	EM2100359	8.56	0.27	3.75	<0.05	0.06	<0.05	<0.05	<0.02	<0.02	<0.05	0.72	0.16	<0.02	0.84	0.38	0.14	<0.02	<0.02	<0.02	0.53	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.3	15.6
MW2157	0939_MW2157_210802	2/08/2021	EM2115885	10.2	0.38	4.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.72	0.22	<0.02	1.21	0.54	0.16	<0.02	<0.02	<0.02	0.58	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	15	18.9
MW2157	0939_MW2157_220201	1/02/2022	EM2202065	12.1	0.34	4.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.65	0.21	<0.02	1.09	0.45	0.16	<0.02	<0.02	<0.02	0.55	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	16.5	20
MW2157	0939_MW2157_220726	26/07/2022	EM2214753	11.4	0.35	4.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.61	0.20	<0.02	1.00	0.42	0.14	<0.02	<0.02	<0.02	0.59	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	15.8	19.1

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2157	0939_MW2157_230131	31/01/2023	EM2302832	10.5	0.31	3.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.61	0.19	<0.02	0.98	0.41	0.14	<0.02	<0.02	<0.02	0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	14.4	17.6
MW2157	0939_MW2157_230711	11/07/2023	EM2312858-AE	12	0.31	4.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.6	0.18	<0.02	0.98	0.48	0.13	<0.02	<0.02	<0.02	0.44	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	16.3	19.4
MW2158	0939_GW2158_170707	7/07/2017	553492	850	38	340	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	79	23	<0.01	120	33	16	<0.01	<0.01	<0.01	61	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1,190	1543
MW2158	0939_GW2158_I_170725	25/07/2017	556151	1,100	45	410	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	54	23	0.28	120	45	19	<0.2	<0.2	<0.2	52	18	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1,510	1,886.28
MW2158	0939_GW2158_I_180628	28/06/2018	605771	1,200	42	340	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	69	23	<0.2	120	53	15	<0.2	<0.2	<0.2	53	15	<0.2	<0.2	<0.2	<0.2	<0.2	0.27	1,540	1,930.27
MW2158	0939_GW2158_I_20192802	28/02/2019	EM1903143	305	12.9	108	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	22.8	7.40	<1.00	41.5	12.8	6.30	<1.00	<1.00	<1.00	19.4	7.4	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	413	544
MW2158	0939_GW2158_I_20190801	1/08/2019	ES1924554	644	25.7	254	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	36.3	14.3	0.14	77.6	25.9	11.6	<0.02	<0.02	<0.02	35.7	6.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.23	898	1,130
MW2158	0939_GW2158_I_191101	1/11/2019	ES1936408	1,030	39.6	377	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	85.8	19.8	0.18	114	60.7	14.4	<0.10	<0.10	<0.10	56.6	14.4	<0.25	<0.25	<0.25	<0.25	<0.10	0.23	1,410	1,810
MW2158	0930_GW2158_I_200205	5/02/2020	ES2003907	2,040	53.4	578	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	81.8	29.1	<0.50	139	55.0	19.8	<0.50	<0.50	<0.50	79.2	14.2	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	2,620	3,090
MW2158	0939_MW2158_200325	25/03/2020	ES2010468	2,030	69.4	616	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	99.8	36.0	0.23	173	65.4	30.1	0.26	<0.02	0.03	90.6	20.0	<0.05	<0.05	<0.05	<0.05	<0.02	0.34	2,650	3,230
MW2158	0939_MW2158_200721	21/07/2020	EM2012633	671	26.2	253	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	41.7	14.7	<0.50	73.0	24.2	10.9	<0.50	<0.50	<0.50	34.7	8.6	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	924	1,160
MW2158	0939_MW2158_210112	12/01/2021	EM2100359	1,370	45.6	455	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	67.6	22.7	0.22	115	49.6	19.3	0.12	<0.04	<0.04	60.6	11.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.23	1,820	2,220
MW2158	0939_MW2158_210802	2/08/2021	EM2115885	1460	58.2	559	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	74	28.8	0.18	154	60.2	22	<0.05	<0.05	<0.05	77.7	11.3	<0.12	<0.12	<0.12	<0.12	<0.05	0.28	2,020	2500
MW2158	0939_MW2158_220131	31/01/2022	EM2201740	1490	56.2	478	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	97.6	28.1	<0.39	138	63	26.8	<0.39	<0.39	<0.39	78.9	6.4	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	1970	2460
MW2158	0939_MW2158_220725	25/07/2022	EM2214753	1,580	71.6	634	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.89	112	38.8	<0.36	193	66.0	33.8	<0.36	<0.36	<0.36	99.1	13.5	<0.89	<0.89	<0.36	<0.89	<0.36	<0.36	2,210	2,840
MW2158	0939_MW2158_230131	31/01/2023	EM2302832	1160	45.1	404	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.86	83.6	25.7	<0.34	128	59.1	23.2	<0.34	<0.34	<0.34	71.7	8.1	<0.86	<0.86	<0.86	<0.86	<0.34	0.45	1560	2010
MW2158	0939_MW2158_230712	12/07/2023	EM2312858-AE	887	40.4	318	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	57.5	22.4	0.24	110	33.6	19.2	0.14	<0.04	<0.04	53.6	7.6	<0.09	<0.09	<0.09	<0.09	<0.04	0.47	1200	1550
MW2159	0939_GW2159_S_180320	20/03/2018	590583	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2159	0939_GW2159_S_180629	29/06/2018	605762	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2159	0939_MW2159_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2159	0939_MW2159_200723	23/07/2020	EM2012841	0.38	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.42	0.42
MW2159	0939_MW2159_210114	14/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2159	0939_MW2159_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2159	0939_MW2159_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2159	0939_MW2159_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2159	0939_MW2159_230131	31/01/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2159	0939_MW2159_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2162	0939_GW2162_I_180626	26/06/2018	605137	0.85	0.03	1.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.04	<0.01	0.14	0.03	0.02	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.15	2.61
MW2162	0939_MW2162_200323	23/03/2020	ES2010099	0.84	0.06	1.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.04	<0.02	0.22	0.07	0.03	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.18	2.86
MW2162	0939_MW2162_200720	20/07/2020	EM2012633	1.20	0.07	1.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.05	<0.02	0.27	0.09	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.83	3.74
MW2162	0939_MW2162_210111	11/01/2021	EM2100359	0.55	0.03	1.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.09	0.04	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.58	1.91
MW2162	0939_MW2162_210812	12/08/2021	EM2116269	0.31	0.02	0.48	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.07	0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.79	1.05
MW2162	0939_MW2162_220201	1/02/2022	EM2201740	0.14	<0.01	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.44	0.56
MW2162	0939_MW2162_220725	25/07/2022	EM2214753	0.16	<0.01	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.45	0.56
MW2162	0939_MW2162_230130	31/01/2023	EM2302832	0.16	0.01	0.33	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.49	0.64
MW2162	0939_MW2162_230710	10/07/2023	EM2312858-AE	0.13	<0.01	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.42	0.52
MW2166	0939_GW2166_S_180320	20/03/2018	590583	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2166	0939_GW2166_S_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2166	0939_MW2166_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	0.20
MW2166	0939_MW2166_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_210111	11/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_210812	12/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_230130	30/01/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2166	0939_MW2166_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2169	0939_GW2169_S_180320	20/03/2018	590583	0.08	<0.01	0.32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.52
MW2169	0939_GW2169_S_180625	25/06/2018	604919	0.06	<0.01	0.48	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.54	0.65
MW2169	0939_MW2169_200324	24/03/2020	ES2010468	0.05	<0.01	0.49	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.54	0.72
MW2169	0939_MW2169_200720	20/07/2020	EM2012633	0.10	<0.01	0.57	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.67	0.89
MW2169	0939_MW2169_210111	11/01/2021	EM2100359	0.07	<0.01	0.45	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.52	0.64
MW2169	0939_MW2169_210812	12/08/2021	EM2116269	0.06	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.49	0.63
MW2169	0939_MW2169_220131	31/01/2022	EM2201740	0.05	<0.01	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.39	0.52
MW2169	0939_MW2169_220725	25/07/2022	EM2214753	0.07	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.50	0.63
MW2169	0939_MW2169_230130	30/01/2023	EM2302832	0.09	<0.01	0.44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.53	0.67
MW2169	0939_MW2169_230710	10/07/2023	EM2312858-AE	0.13	<0.01	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.6	0.74
MW2172	0939_GW2172_S_180219	19/02/2018	585891	<0.01	<0.01	0.19	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	0.26
MW2172	0939_GW2172_S_180625	25/06/2018	604919	<0.01	<0.01	0.16	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.22

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2172	0939_MW2172_200323	23/03/2020	ES2010099	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.12	0.14
MW2172	0939_MW2172_200720	20/07/2020	EM2012633	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	0.13
MW2172	0939_MW2172_210111	11/01/2021	EM2100359	0.03	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.13	0.13
MW2172	0939_MW2172_210812	12/08/2021	EM2116269	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2172	0939_MW2172_220131	31/01/2022	EM2201740	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07
MW2172	0939_MW2172_220725	25/07/2022	EM2214753	<0.01	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.10	0.10
MW2172	0939_MW2172_230130	30/01/2023	EM2302832	0.01	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.17	0.17
MW2172	0939_MW2172_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.12	0.15
MW2173	0939_GW2173_I_180420	20/04/2018	595269	0.01	<0.01	0.04	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW2173	0939_GW2173_I_180625	25/06/2018	604919	<0.01	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2173	0939_MW2173_200323	23/03/2020	ES2010099	0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	0.06	<0.02	<0.02	0.04	0.10
MW2173	0939_MW2173_200720	20/07/2020	EM2012633	0.02	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07
MW2173	0939_MW2173_210111	11/01/2021	EM2100359	0.04	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2173	0939_MW2173_210812	12/08/2021	EM2116269	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2173	0939_MW2173_220131	31/01/2022	EM2201740	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2173	0939_MW2173_220725	25/07/2022	EM2214753	0.02	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.04	0.04
MW2173	0939_MW2173_230130	30/01/2023	EM2302832	0.07	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	0.11
MW2173	0939_MW2173_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2175	0939_GW2175_S_180219	19/02/2018	585891	0.11	<0.01	0.30	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.41	0.56
MW2175	0939_GW2175_S_180626	26/06/2018	605137	0.11	<0.01	0.40	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.51	0.67
MW2175	0939_MW2175_200323	23/03/2020	ES2010099	0.18	<0.01	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.46	0.55
MW2175	0939_MW2175_200720	20/07/2020	EM2012633	0.27	<0.01	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.62	0.83
MW2175	0939_MW2175_210111	11/01/2021	EM2100359	0.07	<0.01	0.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.27	0.37
MW2175	0939_MW2175_210812	12/08/2021	EM2116269	0.12	<0.01	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.39	0.56
MW2175	0939_MW2175_220131	31/01/2022	EM2201740	0.08	<0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.32	0.46
MW2175	0939_MW2175_220725	25/07/2022	EM2214753	0.07	<0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.31	0.43
MW2175	0939_MW2175_230130	30/01/2023	EM2302832	0.08	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.51	0.66
MW2175	0939_MW2175_230710	10/07/2023	EM2312858-AE	0.07	0.01	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.71	0.92
MW2176	0939_GW2176_I_180626	26/06/2018	605137	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2176	0939_MW2176_200323	23/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2176	0939_MW2176_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2176	0939_MW2176_210111	11/01/2021	EM2100359	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
MW2176	0939_MW2176_210812	12/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2176	0939_MW2176_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2176	0939_MW2176_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2176	0939_MW2176_230130	30/01/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2176	0939_MW2176_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2177	0939_GW2177_S_180320	20/03/2018	590583	5.6	0.21	4.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.40	0.11	<0.01	0.83	0.37	0.08	<0.01	<0.01	<0.01	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.9	12.11
MW2177	0939_GW2177_S_180626	26/06/2018	605137	5.3	0.25	4.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.33	0.12	<0.01	0.92	0.42	0.08	<0.01	<0.01	<0.01	0.18	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.5	11.85
MW2177	0939_MW2177_200323	23/03/2020	ES2010099	5.92	0.24	5.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.36	0.12	<0.02	0.95	0.49	0.10	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	11.3	13.8
MW2177	0939_MW2177_200720	20/07/2020	EM2012633	5.56	0.22	4.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	0.13	<0.02	0.98	0.50	0.09	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	10.4	12.9
MW2177	0939_MW2177_210111	11/01/2021	EM2100359	4.20	0.15	3.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.08	<0.02	0.55	0.28	0.06	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	7.26	8.68
MW2177	0939_MW2177_210812	12/08/2021	EM2116269	4.13	0.15	3.51	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.21	0.07	<0.04	0.61	0.29	0.05	<0.04	<0.04	<0.04	0.14	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	7.64	9.16
MW2177	0939_MW2177_220131	31/01/2022	EM2201740	2.93	0.15	3.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.08	<0.02	0.6	0.32	0.07	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.99	7.59
MW2177	0939_MW2177_220725	25/07/2022	EM2214753	4.88	0.16	2.93	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.07	<0.02	0.56	0.29	0.06	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	7.81	9.25
MW2177	0939_MW2177_230130	30/01/2023	EM2302832	4.22	0.11	2.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.05	<0.02	0.38	0.19	0.04	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	6.52	7.49
MW2177	0939_MW2177_230710	10/07/2023	EM2312858-AE	1.47	0.04	0.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.02	<0.02	0.14	0.07	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.29	2.64
MW2180	0939_GW2180_S_180306	6/03/2018	588459	81	11	99	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.7	3.0	0.18	18	8.8	1.9	<0.01	<0.01	<0.01	1.4	0.88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	180	228.86
MW2180	0939_GW2180_S_180626	26/06/2018	605137	94	12	120	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	4.1	2.5	<0.01	17	12	1.7	<0.01	<0.01	<0.01	1.4	0.85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	214	265.55
MW2180	0939_MW2180_200323	23/03/2020	ES2010099	96.6	11.9	134	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	4.10	1.92	0.18	14.3	13.2	1.60	<0.05	<0.05	<0.05	1.22	0.4	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	231	280
MW2180	0939_MW2180_200720	20/07/2020	EM2012633	109	13.5	125	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	3.60	2.76	0.09	17.8	13.4	1.99	<0.05	<0.05	<0.05	0.85	0.8	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	234	289
MW2180	0939_MW2180_210111	11/01/2021	EM2100359	62.8	8.01	74.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.95	1.22	0.10	7.97	7.43	1.09	<0.02	<0.02	<0.02	0.70	1.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	138	168
MW2180	0939_MW2180_210812	12/08/2021	EM2116269	59.8	7.05	60.3	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	2.07	0.98	0.04	6.46	7.86	0.84	<0.04	<0.04	<0.04	0.49	0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	120	146
MW2180	0939_MW2180_220131	31/01/2022	EM2201740	38.5	4.64	39.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.01	0.97	0.04	4	4.78	0.64	<0.02	<0.02	<0.02	0.49	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	78.3	95.3
MW2180	0939_MW2180_220725	25/07/2022	EM2214753	48.7	7.77	57.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.52	0.89	0.08	6.72	6.21	0.81	<0.02	<0.02	<0.02	0.57	0.3	<0.05	<0.05	<0.02	<0.05	<0.02	0.04	106	132
MW2180	0939_MW2180_230130	30/01/2023	EM2302832	43.6	5.24	37.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.1	0.71	0.07	4.64	4.95	0.53	<0.02	<0.02	<0.02	<0.02	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.07	81.4	98.8
MW2180	0939_MW2180_230710	10/07/2023	EM2312858-AE	35	5.7	35.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.4	0.81	0.07	5.68	3.82	0.63	<0.02	<0.02	<0.02	0.44	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.06	70.3	89.1
MW2182	0939_GW2182_S_180306	6/03/2018	588459	0.06	<0.01	0.04	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2182	0939_GW2182_S_180626	26/06/2018	605137	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1
MW2182	0939_MW2182_200323	23/03/2020	ES2010099	0.03	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW2182	0939_MW2182_200720	20/07/2020	EM2012633	0.06	<0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.20	0.23
MW2182	0939_MW2182_210111	11/01/2021	EM2100359	0.03	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	0.09
MW2182	0939_MW2182_210812	12/08/2021	EM2116269	0.05	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	0.09
MW2182	0939_MW2182_220131	31/01/2022	EM2201740	0.05	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07
MW2182	0939_MW2182_220725	25/07/2022	EM2214753	0.03	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.06	0.06
MW2182	0939_MW2182_230130	30/01/2023	EM2302832	0.21	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.29	0.29
MW2182	0939_MW2182_230710	10/07/2023	EM2312858-AE	0.06	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<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	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	0.09
MW2183	0939_GW2183_I_180306	6/03/2018	588459	1.7	0.04	0.68	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.03	<0.01	0.12	0.05	0.02	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.38	2.8
MW2183	0939_GW2183_I_180626	26/06/2018	605137	1.3	0.03	0.70	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.02	<0.01	0.09	0.03	0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2	2.3
MW2183	0939_MW2183_200323	23/03/2020	ES2010099	2.50	0.07	1.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.04	<0.02	0.19	0.10	0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.84	4.54
MW2183	0939_MW2183_200720	20/07/2020	EM2012633	2.98	0.08	1.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.04	<0.02	0.25	0.14	0.03	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.63	5.60
MW2183	0939_MW2183_210111	11/01/2021	EM2100359	2.14	0.07	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.21	0.09	0.03	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.55	4.25
MW2183	0939_MW2183_210812	12/08/2021	EM2116269	3.2	0.07	1.93	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.23	0.04	<0.04	0.27	0.14	<0.04	<0.04	<0.04	<0.04	0.16	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	5.13	6.04
MW2183	0939_MW2183_220131	31/01/2022	EM2201740	3.35	0.09	1.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.05	<0.02	0.28	0.13	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.93	5.94
MW2183	0939_MW2183_220725	25/07/2022	EM2214753	3.99	0.11	1.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.25	0.06	<0.02	0.31	0.15	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	5.98	7.12
MW2183	0939_MW2183_230130	30/01/2023	EM2302832	3.73	0.1	1.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.06	<0.02	0.3	0.15	0.05	<0.02	<0.02	<0.02	0.2	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.59	6.63
MW2183	0939_MW2183_230710	10/07/2023	EM2312858-AE	4.22	0.13	2.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.07	<0.02	0.38	0.2	0.05	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	6.56	7.93
MW2184	0939_GW2184_S_180306	6/03/2018	588459	0.47	0.01	0.41	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.88	1.01
MW2184	0939_GW2184_S_180625	25/06/2018	604919	0.42	<0.01	0.35	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.85
MW2184	0939_MW2184_200323	23/03/2020	ES2010099	0.42	<0.01	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.77	0.90
MW2184	0939_MW2184_200720	20/07/2020	EM2012633	0.70	<0.01	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.91	0.94
MW2184	0939_MW2184_210111	11/01/2021	EM2100359	0.19	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.28	0.28
MW2184	0939_MW2184_210812	12/08/2021	EM2116269	0.8	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.82	0.82
MW2184	0939_MW2184_220131	31/01/2022	EM2201740	0.38	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.4	0.4
MW2184	0939_MW2184_220725	25/07/2022	EM2214753	0.03	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.04	0.04
MW2184	0939_MW2184_230130	30/01/2023	EM2302832	0.14	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.22	0.22
MW2184	0939_MW2184_230710	10/07/2023	EM2312858-AE	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2185	0939_GW2185_I_180219	19/02/2018	585891	2.1	0.05	1.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.03	<0.01	0.10	0.07	0.02	<0.01	<0.01	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.1	3.56
MW2185	0939_GW2185_I_180625	25/06/2018	604919	2.6	0.05	1.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.03	<0.01	0.10	0.05	0.02	<0.01	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4	4.44
MW2185	0939_GW2185_I_180704	4/07/2018	606589	2.2	0.04	0.87	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.03	<0.01	0.12	0.06	0.02	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.07	3.56
MW2185	0939_MW2185_200323	23/03/2020	ES2010099	3.65	0.08	2.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.04	<0.02	0.20	0.14	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.73	6.64
MW2185	0939_MW2185_200720	20/07/2020	EM2012633	5.39	0.11	2.66	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.37	0.05	<0.02	0.29	0.20	0.05	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.05	9.36
MW2185	0939_MW2185_210111	11/01/2021	EM2100359	5.24	0.14	2.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.07	<0.02	0.37	0.20	0.06	<0.02	<0.02	<0.02	0.28	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.23	9.71
MW2185	0939_MW2185_210812	12/08/2021	EM2116269	5.62	0.13	3.06	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.37	0.07	<0.04	0.42	0.2	0.06	<0.04	<0.04	<0.04	0.32	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	8.68	10.2
MW2185	0939_MW2185_220131	31/01/2022	EM2201740	5.67	0.18	3.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.47	0.1	<0.02	0.46	0.27	0.08	<0.02	<0.02	<0.02	0.39	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	9.03	11
MW2185	0939_MW2185_220725	25/07/2022	EM2214753	8.15	0.22	3.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.50	0.10	<0.02	0.52	0.30	0.09	<0.02	<0.02	<0.02	0.37	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	12.1	14.2
MW2185	0939_MW2185_220130	30/01/2023	EM2302832	8.32	0.21	4.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.4	0.12	<0.02	0.51	0.29	0.09	<0.02	<0.02	<0.02	0.43	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.3	14.4
MW2185	0939_MW2185_230710	10/07/2023	EM2312858-AE	8.75	0.22	4.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.55	0.11	<0.02	0.55	0.36	0.09	<0.02	<0.02	<0.02	0.38	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	13	15.3
MW2188	0939_GW2188_S_180201	1/02/2018	583482	23	4.2	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	5.2	<0.2	24	2.1	2.5	<0.2	<0.2	<0.2	11	2.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	133	198.6
MW2188	0939_GW2188_S_180628	28/06/2018	605771	110	8.5	74	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	12	6.2	0.02	30	6.7	2.6	<0.01	<0.01	<0.01	11	2.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	184	263.42
MW2188	0939_MW2188_200323	23/03/2020	ES2010099	116	3.23	46.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	6.72	1.74	<0.05	9.06	4.37	1.32	<0.05	<0.05	<0.05	5.34	0.7	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	162	195
MW2188	0939_MW2188_200721	21/07/2020	EM2012633	96.6	5.56	134	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	22.4	5.70	<0.05	27.8	6.22	3.20	<0.05	<0.05	<0.05	11.8	2.4	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	231	316
MW2188	0939_MW2188_210114	14/01/2021	EM2100517	49.8	4.55	62.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	11.3	4.99	<0.02	21.6	3.46	2.34	<0.02	<0.02	<0.02	10.4	1.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	112	173
MW2188	0939_MW2188_210813	13/08/2021	EM2116269	130	4.62	108	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	11	4.15	<0.04	20.3	7.67	2.23	<0.04	<0.04	<0.04	9.36	1.3	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	238	299
MW2188	0939_MW2188_220201	1/02/2022	EM2202065	130	4.66	90.9	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.8	3.7	<0.04	17.4	8.05	2.28	<0.04	<0.04	<0.04	9.12	0.8	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	221	283
MW2188	0939_MW2188_220725	25/07/2022	EM2214753	139	5.17	94.0	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.3	3.78	<0.03	17.0	8.21	2.36	<0.03	<0.03	<0.03	9.25	1.0	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	233	293
MW2188	0939_MW2188_230130	30/01/2023	EM2302832	199	5.76	105	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	16.6	3.9	<0.04	20.2	7.45	2.49	<0.04	<0.04	<0.04	9.44	1	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	304	371
MW2188	0939_MW2188_230707	7/07/2023	EM2312858-AE	202	5.98	95.9	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	11.7	2.1	<0.04	19.7	6.44	2.36	<0.04	<0.04	<0.04	10.2	1	<0.1	<0.1	<0.1	<0.1	<0.04	0.04	298	357
MW2189	0939_GW2189_I_180628	28/06/2018	605771	360	11	140	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	21	5.3	<0.2	34	13	4.1	<0.2	<0.2	<0.2	17	4.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	500	609.5
MW2189	0939_MW2189_200721	21/07/2020	EM2012633	35.7	1.15	15.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	2.24	0.76	<0.05	3.43	1.22	0.48	<0.05	<0.05	<0.05	1.78	0.4	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	51.3	62.8
MW2189	0939_MW2189_210114	14/01/2021	EM2100517	87.7	2.91	11.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.46	1.88	<0.02	3.86	1.10	1.39	0.89	<0.02	<0.02	1.17	1.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	98.8	114
MW2189	0939_MW2189_210813	13/08/2021	EM2116269	250	7.8	98.3	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	12	3.83	<0.04	22.1	12.2	3.09	<0.04	<0.04	<0.04	11.3	1.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.04	348	422
MW2189	0939_MW2189_220201	1/02/2022	EM2202065	314	8.22	109	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	14.7	4.97	<0.4	23.2	10.3	3.5	<0.4	<0.4	<0.4	14	<2	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	423	502
MW2189	0939_MW2189_220725	25/07/2022	EM2214753	290	8.33	118	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	18.4	5.34	0.05	23.1	17.0	3.98	<0.04	<0.04	<0.04	12.9	1.7	<0.09	<0.09	<0.04	<0.09	<0.04	<0.04	408	499
MW2189	0939_MW2189_230302	2/03/2023	EM2303877	306	8.2	114	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	19.8	5.36	0.08	26.7	15.5	3.86	<0.04	<0.04	<0.04	12.9	1.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.13	420	514
MW2189	0939_MW2189_230707	7/07/2023	EM2312858-AE	300	8.67	109	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.09	16.1	3.26	0.04	26.8	9.76	3.69	0.04	<0.03	<0.03	14.7	1.8	<0.09	<0.09	<0.09	<0.09	<0.03	0.09	409	494

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2193	0939_GW2193_S_180201	1/02/2018	583482	36	1.5	24	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.3	1.3	0.02	5.8	1.5	0.79	<0.01	<0.01	<0.01	2.4	0.70	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	60	77.4
MW2193	0939_GW2193_S_180628	28/06/2018	605771	71	1.7	24	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	1.1	0.02	5.8	2.8	0.73	0.08	<0.01	<0.01	2.6	0.65	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	95	113.72
MW2193	0939_MW2193_200324	24/03/2020	ES2010468	47.7	1.72	25.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	3.66	1.08	<0.05	5.44	1.88	0.80	<0.05	<0.05	<0.05	2.95	0.3	<0.12	<0.12	<0.12	<0.12	<0.05	0.06	73.5	91.4
MW2193	0939_MW2193_200721	21/07/2020	EM2012633	66.0	2.38	38.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	5.62	1.76	<0.05	9.24	3.06	1.21	<0.05	<0.05	<0.05	4.32	0.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	105	133
MW2193	0939_MW2193_210114	14/01/2021	EM2100517	40.2	1.39	45.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	9.58	1.08	<0.02	21.6	2.95	0.66	0.12	<0.02	<0.02	2.82	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	85.7	126
MW2193	0939_MW2193_210812	12/08/2021	EM2116269	54.1	1.52	31.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	5.28	1.6	<0.04	8.79	2.02	0.8	<0.04	<0.04	<0.04	4.32	0.5	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	85.9	111
MW2193	0939_MW2193_220131	31/01/2022	EM2201740	44.8	1.49	25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.58	1.77	<0.02	6.88	1.73	1	<0.04	<0.02	<0.02	3.85	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	69.8	92
MW2193	0939_MW2193_220725	25/07/2022	EM2214753	53.9	1.54	34.0	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.09	5.32	1.48	<0.03	7.62	2.41	0.86	0.09	<0.03	<0.03	4.25	0.5	<0.09	<0.09	<0.03	<0.09	<0.03	0.04	87.9	112
MW2193	0939_MW2193_230123	30/01/2023	EM2302832	48.1	1.42	29.6	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	4.8	1.42	<0.04	8.63	2.01	0.75	0.06	<0.04	<0.04	4.06	0.5	<0.1	<0.1	<0.1	<0.1	<0.04	0.08	77.7	101
MW2193	0939_MW2193_230707	7/07/2023	EM2312858-AE	47.9	1.6	30.9	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.95	1.51	<0.02	7.69	1.47	0.83	0.09	<0.02	<0.02	3.67	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	78.8	101
MW2194	0939_GW2194_S_180201	1/02/2018	583482	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2194	0939_GW2194_S_180628	28/06/2018	605771	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW2194	0939_MW2194_200324	24/03/2020	ES2010468	2.98	0.11	2.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.07	<0.02	0.33	0.14	0.05	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.07	6.23
MW2194	0939_MW2194_200721	21/07/2020	EM2012633	2.85	0.10	1.92	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.06	<0.02	0.31	0.15	0.05	<0.02	<0.02	<0.02	0.16	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.77	5.81
MW2194	0939_MW2194_210114	14/01/2021	EM2100517	1.31	0.05	1.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.17	0.07	0.03	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.44	2.96
MW2194	0939_MW2194_210812	12/08/2021	EM2116269	1.55	0.05	0.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.15	0.06	0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.3	2.76
MW2194	0939_MW2194_220201	1/02/2022	EM2202065	1.16	0.04	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.11	0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.8	2.14
MW2194	0939_MW2194_220725	25/07/2022	EM2214753	0.91	0.03	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.38	1.64
MW2194	0939_MW2194_230130	30/01/2023	EM2302832	0.8	0.02	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.27	1.49
MW2194	0939_MW2194_230707	7/07/2023	EM2312858-AE	0.63	0.02	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.06	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.98	1.15
MW2197	0939_GW2197_S_180219	19/02/2018	585891	390	13	180	<0.2	<0.2	<0.2	<0.2	<0.2	0.05	<0.2	22	8.3	<0.2	41	17	5.6	<0.2	<0.2	<0.2	19	5.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	570	701.05
MW2197	0939_GW2197_S_180628	28/06/2018	605771	100	5.1	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	13	4.7	<0.2	21	4.6	2.1	<0.2	<0.2	<0.2	9.5	2.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	200	262.1
MW2197	0939_MW2197_200324	24/03/2020	ES2010468	284	11.3	179	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	<0.12	28.4	7.14	0.10	35.5	19.9	5.08	<0.05	<0.05	<0.05	19.0	3.1	<0.12	<0.12	<0.12	<0.12	<0.05	0.12	463	593
MW2197	0939_MW2197_200721	21/07/2020	EM2012633	420	14.7	210	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.25	33.6	9.77	<0.10	51.7	24.5	6.81	<0.10	<0.10	<0.10	24.2	5.6	<0.25	<0.25	<0.25	<0.25	<0.10	0.19	630	801
MW2197	0939_MW2197_210114	14/01/2021	EM2100517	280	8.11	117	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.11	17.1	5.24	0.07	25.7	13.9	4.05	<0.04	<0.04	<0.04	14.0	3.0	<0.11	<0.11	<0.11	<0.11	<0.04	0.10	397	488
MW2197	0939_MW2197_210812	12/08/2021	EM2116269	413	10.9	149	<0.05	0.12	<0.05	<0.05	<0.04	<0.04	<0.09	24.5	6.1	0.06	31.6	20.7	4.37	0.05	<0.04	<0.04	15.8	2.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.08	562	678
MW2197	0939_MW2197_220201	1/02/2022	EM2202065	327	9.66	140	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.97	18.1	5.83	<0.39	26.9	14	4.49	<0.39	<0.39	<0.39	15.1	<1.9	<0.97	<0.97	<0.97	<0.97	<0.39	<0.39	467	561
MW2197	0939_MW2197_220725	25/07/2022	EM2214753	387	11.6	176	<0.05	0.13	<0.05	<0.05	<0.04	<0.04	<0.09	27.7	6.88	0.10	32.7	28.9	5.34	0.17	<0.04	<0.04	16.8	2.3	<0.09	<0.09	<0.04	<0.09	<0.04	0.18	563	696
MW2197	0939_MW2197_230123	30/01/2023	EM2302832	353	11.5	160	<0.05	0.1	<0.05	<0.05	<0.04	<0.04	<0.09	30.9	7.02	0.1	37.6	15.4	5.47	<0.04	<0.04	<0.04	18.1	2	<0.09	<0.09	<0.09	<0.09	<0.04	0.3	513	641
MW2197	0939_MW2197_230707	13/07/2023	EM2312858-AE	415	12.8	164	<0.05	0.17	<0.05	<0.05	<0.04	<0.04	<0.09	21.9	4.62	0.09	35.9	15	5.43	0.2	<0.04	<0.04	20.4	2.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.26	579	698
MW2200	0939_GW2200_I_180627	27/06/2018	605360	190	17	290	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	46	11	<0.2	60	20	7.2	<0.2	<0.2	<0.2	33	5.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	480	679.7
MW2200	0939_GW2200_I_190219	19/02/2019	642294	48	5.6	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	13	3.6	<0.2	22	6.0	2.6	<0.2	<0.2	<0.2	11	2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	148	217.1
MW2200	0939_MW2200_200323	23/03/2020	ES2010099	75.2	8.23	166	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	27.1	5.34	<0.05	30.6	12.3	4.07	<0.05	<0.05	<0.05	18.1	2.1	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	241	349
MW2200	0939_MW2200_200720	20/07/2020	EM2012633	118	11.6	225	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	44.4	8.44	<0.05	48.7	11.8	6.06	<0.05	<0.05	<0.05	23.2	3.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	343	501
MW2200	0939_MW2200_210111	11/01/2021	EM2100359	49.8	4.34	85.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	14.4	3.54	<0.02	15.7	4.89	2.87	0.05	<0.02	<0.02	9.08	2.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	135	193
MW2200	0939_MW2200_210813	13/08/2021	EM2116269	37.5	3.27	60.6	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	9.7	2.1	<0.04	12.3	4.05	1.63	<0.04	<0.04	<0.04	7.01	0.5	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	98.1	139
MW2200	0939_MW2200_220131	31/01/2022	EM2201740	46.3	3.49	67.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	12.1	2.18	<0.04	11.4	5.74	1.89	<0.04	<0.04	<0.04	7.95	0.6	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	114	159
MW2200	0939_MW2200_220726	26/07/2022	EM2214753	50.1	2.94	59.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	8.04	1.78	<0.02	9.46	4.48	1.49	<0.02	<0.02	<0.02	6.26	0.6	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	110	145
MW2200	0939_MW2200_230130	30/01/2023	EM2302832	43.4	2.58	45.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.48	1.8	<0.02	9.11	2.95	1.28	<0.02	<0.02	<0.02	5.76	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	89	118
MW2200	0939_MW2200_230710	10/07/2023	EM2312858-AE	42.4	2.84	44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	6.47	1.88	<0.02	8.78	2.08	1.4	<0.02	<0.02	<0.02	5.68	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	86.4	116
MW2201	0939_GW2201_S_180201	1/02/2018	583482	0.06	<0.01	0.73	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.02	<0.01	0.07	0.02	<0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.79	1.03
MW2201	0939_GW2201_S_180627	27/06/2018	605360	0.06	0.01	1.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.07	0.01	<0.01	<0.01	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.06	1.31
MW2201	0939_MW2201_200323	23/03/2020	ES2010099	1.24	<0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.42	1.47
MW2201	0939_MW2201_200720	21/07/2020	EM2012633	1.31	0.12	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.39	1.53
MW2201	0939_MW2201_210111	11/01/2021	EM2100359	0.84	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.94	0.94
MW2201	0939_MW2201_210813	13/08/2021	EM2116269	0.64	<0.01	0.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.05	1.16
MW2201	0939_MW2201_220201	1/02/2022	EM2201740	0.59	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.68	0.68
MW2201	0939_MW2201_220725	25/07/2022	EM2214753	0.32	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.48	0.48
MW2201	0939_MW2201_230130	30/01/2023	EM2302832	0.2	<0.01	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.42	0.44
MW2201	0939_MW2201_230710	10/07/2023	EM2312858-AE	0.2	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.26	0.26
MW2202	0939_GW2202_I_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2202	0939_MW2202_200323	23/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2202	0939_MW2202_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2202	0939_MW2202_210111	11/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2202	0939_MW2202_210813	13/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2202	0939_MW2202_220201	1/02/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2202	0939_MW2202_220725	25/07/2022	EM2214753	0.09	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.11	0.11
MW2202	0939_MW2202_230130	30/01/2023	EM2302832	0.06	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2202	0939_MW2202_230711	10/07/2023	EM2312858-AE	0.09	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	0.11
MW2203	0939_GW2203_S_180214	14/02/2018	585260	5,300	110	1,600	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	160	58	<0.01	320	180	42	<0.01	<0.01	<0.01	140	32	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,900	7,942
MW2203	0939_GW2203_S_180628	28/06/2018	605771	5,300	110	1,200	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	170	62	0.69	260	200	39	<0.2	<0.2	<0.2	110	28	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6,500	7,479.69
MW2203	0939_MW2203_200324	24/03/2020	ES2010468	3,800	82.0	1,040	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	143	45.2	<0.50	230	135	31.6	<0.50	<0.50	<0.50	98.8	11.3	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	4,840	5,620
MW2203	0939_MW2203_200721	21/07/2020	EM2012633	2,700	58.0	796	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	83.5	35.0	<5.00	178	58.5	24.0	<5.00	<5.00	<5.00	68.5	<25.0	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	3,500	4,000
MW2203	0939_MW2203_210114	14/01/2021	EM2100517	2,890	62.0	838	<0.05	0.45	<0.05	<0.05	<0.04	<0.04	<0.10	94.4	36.7	0.44	183	79.5	25.8	<0.04	<0.04	0.04	72.9	14.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.51	3,730	4,290
MW2203	0939_MW2203_210813	13/08/2021	EM2116269	3010	49.6	763	<0.05	0.18	<0.05	<0.05	<0.04	<0.04	<0.1	60.7	30	0.23	143	62.8	20.8	<0.04	<0.04	0.05	58	8.8	<0.1	<0.1	<0.1	<0.1	<0.04	0.11	3,770	4210
MW2203	0939_MW2203_220131	31/01/2022	EM2201740	2880	39.2	542	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	77	23.2	<0.4	108	57.3	18.3	<0.4	<0.4	<0.4	49.5	3.4	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	3420	3800
MW2203	0939_MW2203_220725	25/07/2022	EM2214753	4,330	59.2	875	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.87	113	37.8	<0.35	174	159	27.2	<0.35	<0.35	<0.35	79.6	5.8	<0.87	<0.87	<0.35	<0.87	<0.35	<0.35	5,200	5,860
MW2203	0939_MW2203_230130	30/01/2023	EM2302832	3750	58.5	797	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.97	111	35.3	0.52	193	62.3	25.2	<0.39	<0.39	<0.39	71.5	6.3	<0.97	<0.97	<0.97	<0.97	<0.39	<0.39	4550	5110
MW2203	0939_MW2203_230710	10/07/2023	EM2312858-AE	308	4.48	61.2	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	6.9	1.7	<0.04	14.2	4.5	1.95	<0.04	<0.04	<0.04	6.16	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	369	410
MW2209	0939_GW2209_I_180629	29/06/2018	605762	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2209	0939_MW2209_200325	25/03/2020	ES2010468	0.10	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.10	0.10
MW2209	0939_MW2209_200721	21/07/2020	EM2012633	0.11	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	0.11
MW2209	0939_MW2209_210112	12/01/2021	EM2100359	0.08	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2209	0939_MW2209_210802	2/08/2021	EM2115885	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW2209	0939_MW2209_220201	1/02/2022	EM2202065	0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.05	0.05
MW2209	0939_MW2209_220726	26/07/2022	EM2214753	0.43	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.46	0.46
MW2209	0939_MW2209_230131	31/01/2023	EM2302832	0.2	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.2	0.2
MW2209	0939_MW2209_230711	11/07/2023	EM2312858-AE	0.64	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.7	0.7
MW2210	0939_GW2210_I_180629	29/06/2018	605762	97	2.7	38	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.9	2.2	0.02	9.3	3.5	1.3	<0.01	<0.01	0.01	6.1	1.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	135	165.43
MW2210	0939_QC109_200325^	25/03/2020	ES2010468	112	5.5	72.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	8.6	4.34	0.03	16.9	9.19	2.81	<0.02	<0.02	<0.02	10.5	3.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	185	246
MW2210	0939_MW2210_200721	21/07/2020	EM2012633	119	5.91	66.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	12.4	4.81	<0.10	22.5	11.0	3.09	<0.10	<0.10	<0.10	12.2	3.4	<0.25	<0.25	<0.25	<0.25	<0.10	<0.10	185	260
MW2210	0939_MW2210_210112	12/01/2021	EM2100359	109	3.61	58.1	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	8.85	2.78	<0.04	13.4	8.99	2.25	<0.04	<0.04	<0.04	10.5	1.5	<0.10	<0.10	<0.10	<0.10	<0.04	<0.04	167	219
MW2210	0939_MW2210_210802	2/08/2021	EM2115885	163	5.83	87.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	11.9	4.38	<0.04	22.7	16.1	3.04	<0.04	<0.04	<0.04	16.9	1.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	250	333
MW2210	0939_MW2210_220201	1/02/2022	EM2202065	148	5.15	73.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.2	3.77	<0.04	19	16.3	3.23	<0.04	<0.04	<0.04	13.8	1.5	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	221	299
MW2210	0939_MW2210_220726	26/07/2022	EM2214753	66.3	3.00	40.4	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	5.87	2.26	<0.03	11.5	6.49	1.78	<0.03	<0.03	<0.03	7.16	0.8	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	107	146
MW2210	0939_MW2210_230131	31/01/2023	EM2302832	65.5	3.12	39.7	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	6.62	2.38	<0.04	10.5	7.26	1.73	<0.04	<0.04	<0.04	8.32	1.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	105	146
MW2210	0939_MW2210_230711	11/07/2023	EM2312858-AE	71.1	3.77	35.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.67	2.71	0.03	12.4	5.13	1.95	<0.02	<0.02	<0.02	7.51	2.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	107	148
MW2216	0939_GW2216_I_180327	27/03/2018	591628	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2216	0939_GW2216_I_180628	28/06/2018	605771	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2216	0939_MW2216_200325	25/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW2216	0939_MW2216_200721	21/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2216	0939_MW2216_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2216	0939_MW2216_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2216	0939_MW2216_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2216	0939_MW2216_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2216	0939_MW2216_230131	31/01/2023	EM2302832	0.02	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW2216	0939_MW2216_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2218	0939_GW2218_I_180327	27/03/2018	591628	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2218	0939_GW2218_I_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2218	0939_MW2218_200320	20/03/2020	ES2010099	3.65	0.10	1.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.20	0.04	<0.02	0.22	0.15	0.04	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.08	5.91
MW2218	0939_MW2218_200721	21/07/2020	EM2012633	2.42	0.06	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	0.02	<0.02	0.12	0.09	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.18	3.62
MW2218	0939_MW2218_210112	12/01/2021	EM2100359	0.82	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.98	1.00
MW2218	0939_MW2218_210802	2/08/2021	EM2115885	1.06	0.01	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.25	1.31
MW2218	0939_MW2218_220202	2/02/2022	EM2202065	1.14	0.03	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.42	1.63
MW2218	0939_MW2218_220726	26/07/2022	EM2214753	2.91	0.09	0.95	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.04	<0.02	0.22	0.09	0.03	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	3.86	4.62
MW2218	0939_MW2218_230131	31/01/2023	EM2302832	0.43	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.47	0.47
MW2218	0939_MW2218_230711	11/07/2023	EM2312858-AE	1.49	0.03	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.06	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.92	2.16
MW2270	0939_GW2270_D_180824	24/08/2018	614438	0.10	<0.01	0.18	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	0.38
MW2270	0939_GW2270_D_190218	18/02/2019	642294	0.14	0.02	0.41	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.03	<0.01	0.11	0.02	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.55	0.89
MW2270	0939_MW2270_200323	23/03/2020	ES2010099	0.25	0.03	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.14	0.03	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.89	1.27
MW2270	0939_MW2270_200720	20/07/2020	EM2012633	0.42	0.04	0.80	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.18	0.05	0.02	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.22	1.79
MW2270	0939_MW2270_210111	11/01/2021	EM2100359	0.24	0.03	0.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.11	0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.89	1.21
MW2270	0939_MW2270_210813	13/08/2021	EM2116269	0.3	0.03	0.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.13	0.03	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.02	1.38
MW2270	0939_MW2270_220131	31/01/2022	EM2201740	0.44	0.05	0.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.04	<0.02	0.19	0.05	0.03	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.28	1.94
MW2270	0939_MW2270_220726	26/07/2022	EM2214753	0.52	0.06	1.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.17	0.04	<0.02	0.23	0.05	0.03	<0.02	<0.02	<0.02	0.16	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.59	2.33
MW2270	0939_MW2270_220725	30/01/2023	EM2302832	0.82	0.05	0.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.03	<0.02	0.2	0.05	0.03	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.81	2.45

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2270	0939_MW2270_230710	10/07/2023	EM2312858-AE	0.62	0.04	0.68	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.3	1.72
MW2272	0939_GW2272_D_180814	16/08/2018	613276	1.4	0.15	1.5	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	0.29	0.12	<0.01	0.68	0.10	0.08	<0.01	<0.01	<0.01	0.32	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.9	4.78
MW2272	0939_GW2272_D_190218	18/02/2019	642294	13	4.6	32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	7.1	4.2	<0.01	16	2.7	2.2	<0.01	<0.01	<0.01	8.5	2.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	45	95.64
MW2272	0939_MW2272D_190228	28/02/2019	EM1903143	8.86	1.75	19.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.02	1.51	<0.02	7.78	1.56	1.11	<0.02	<0.02	<0.02	3.63	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	28.0	50.2
MW2272	0939_MW2272D_190801	1/08/2019	ES1924554	44.8	9.44	102	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	17.5	6.99	0.05	40.2	7.41	6.70	<0.02	<0.02	<0.02	18.9	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.06	147	254
MW2272	0939_MW2272_200325	25/03/2020	ES2010468	89.5	16.8	186	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	27.0	12.0	0.04	56.6	16.6	8.48	<0.02	<0.02	<0.02	30.5	6.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	276	450
MW2272	0939_MW2272_200721	21/07/2020	EM2012633	68.8	13.5	148	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	32.5	10.2	<0.05	48.2	10.3	7.06	<0.05	<0.05	<0.05	26.0	5.5	<0.12	<0.12	<0.12	<0.12	<0.05	0.05	217	370
MW2272	0939_MW2272_210112	12/01/2021	EM2100359	66.6	10.6	120	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.11	23.3	7.52	<0.04	36.0	8.58	6.16	<0.04	<0.04	<0.04	19.7	3.8	<0.11	<0.11	<0.11	<0.11	<0.04	<0.04	187	302
MW2272	0939_MW2272_210802	2/08/2021	EM2115885	115	17.3	182	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	21	12.2	<0.04	62.2	16.2	8.42	0.1	<0.04	<0.04	34.2	2.8	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	297	471
MW2272	0939_MW2272_220131	31/01/2022	EM2201740	77.5	11.8	121	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	34.4	7.85	<0.04	37.2	18.4	6.44	<0.04	<0.04	<0.04	24.8	2.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	198	341
MW2272	0939_MW2272_220725	25/07/2022	EM2214753	118	17.3	194	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	34.9	12.5	0.08	61.0	20.0	10.0	<0.04	<0.04	<0.04	35.3	4.7	<0.09	<0.09	<0.04	<0.09	<0.04	<0.04	312	508
MW2272	0939_MW2272_230131	31/01/2023	EM2302832	4.44	0.42	4.45	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.79	0.31	<0.02	1.28	0.38	0.23	<0.02	<0.02	<0.02	0.95	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.89	13.4
MW2272	0939_MW2272_230712	12/07/2023	EM2312858-AE	106	13.6	134	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	27.6	5.82	<0.04	45.6	9.55	7.93	<0.04	<0.04	<0.04	29.6	4.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	240	384
MW2275	0939_GW2275_D_180824	24/08/2018	614438	0.05	<0.01	0.07	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.14
MW2275	0939_GW2275_D_190218	18/02/2019	642294	0.18	0.19	1.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.36	0.04	0.04	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.78	2.59
MW2275	0939_MW2275_200323	23/03/2020	ES2010099	0.11	0.06	0.68	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.79	1.00
MW2275	0939_MW2275_200720	20/07/2020	EM2012633	0.17	0.09	0.91	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.17	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.08	1.40
MW2275	0939_MW2275_210111	11/01/2021	EM2100359	0.08	0.05	0.70	<0.05	0.10	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.78	1.17
MW2275	0939_MW2275_210812	12/08/2021	EM2116269	0.17	0.13	1.53	<0.05	0.09	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.2	0.02	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.7	2.27
MW2275	0939_MW2275_220131	31/01/2022	EM2201740	0.16	0.12	1.23	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.19	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.39	1.89
MW2275	0939_MW2275_220725	25/07/2022	EM2214753	0.18	0.12	1.32	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.19	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.50	2.03
MW2275	0939_MW2275_230130	30/01/2023	EM2302832	0.38	0.13	1.48	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.21	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.86	2.42
MW2275	0939_MW2275_230710	10/07/2023	EM2312858-AE	0.2	0.11	1.21	<0.05	0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.18	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.41	1.84
MW2281	0939_GW2281_D_181101	1/11/2018	625607	1.9	0.04	0.70	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	0.09	0.06	0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.6	2.94
MW2281	0939_GW2281_D_181220	20/12/2018	EB1900412	0.92	0.09	0.44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	0.03	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.36	1.62
MW2281	0939_GW2281_D_190218	18/02/2019	642294	1.4	0.03	0.63	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.01	<0.01	0.07	0.04	0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.03	2.32
MW2281	0939_MW2281_200323	23/03/2020	ES2010099	2.21	0.04	1.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.12	0.09	<0.02	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.25	3.74
MW2281	0939_MW2281_200720	20/07/2020	EM2012633	1.42	0.02	0.57	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.07	0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.99	2.27
MW2281	0939_MW2281_210111	11/01/2021	EM2100359	2.00	0.04	0.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.11	0.07	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.94	3.37
MW2281	0939_MW2281_210812	12/08/2021	EM2116269	1.8	0.03	0.68	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.48	2.86
MW2281	0939_MW2281_220131	31/01/2022	EM2201740	1.24	0.03	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.06	0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.84	2.16
MW2281	0939_MW2281_220725	25/07/2022	EM2214753	1.90	0.04	0.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.11	0.07	<0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	2.72	3.14
MW2281	0939_MW2281_230130	30/01/2023	EM2302832	1.83	0.04	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.1	0.06	<0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.59	2.97
MW2281	0939_MW2281_230710	10/07/2023	EM2312858-AE	3.74	0.11	2.01	<0.05	0.28	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.06	<0.02	0.29	0.17	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.75	7.09
MW2284	0939_GW2284_D_181220	20/12/2018	EB1900412	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW2284	0939_GW2284_D_190218	18/02/2019	642294	3.8	0.31	2.9	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.57	0.22	<0.01	1.1	0.31	0.15	<0.01	<0.01	<0.01	0.49	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6.7	10.19
MW2284	0939_MW2284D_190301	1/03/2019	EM1903143	6.49	0.51	5.11	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.05	0.42	<0.02	2.33	0.41	0.31	<0.02	<0.02	<0.02	0.98	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	11.6	17.8
MW2284	0939_MW2284D_190801	1/08/2019	ES1924554	5.38	0.28	3.31	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.58	0.20	<0.02	1.04	0.25	0.16	<0.02	<0.02	<0.02	0.53	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.69	11.7
MW2284	0939_MW2284_200325	25/03/2020	ES2010468	22.4	2.48	26.7	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	4.30	1.82	<0.02	7.54	2.59	1.26	<0.02	<0.02	<0.02	4.22	1.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	49.1	74.5
MW2284	0939_MW2284_200721	21/07/2020	EM2012633	11.2	1.44	14.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.67	1.16	<0.02	4.98	1.00	0.74	<0.02	<0.02	<0.02	2.53	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	25.4	40.5
MW2284	0939_MW2284_210112	12/01/2021	EM2100359	17.8	2.11	25.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.75	1.42	<0.02	7.44	1.58	1.27	0.11	<0.02	<0.02	3.60	1.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	43.0	65.3
MW2284	0939_MW2284_210802	2/08/2021	EM2115885	26.5	3.34	35.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	3.87	2.3	<0.04	11.4	2.9	1.57	<0.04	<0.04	<0.04	5.91	0.4	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	62.3	94
MW2284	0939_MW2284_220131	31/01/2022	EM2201740	23.6	3.5	28.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.41	2.7	<0.02	7.5	2.7	1.49	<0.04	<0.02	<0.02	4.93	2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	51.8	82
MW2284	0939_MW2284_220725	25/07/2022	EM2214753	28.2	3.41	35.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.13	2.40	<0.02	10.4	3.07	1.89	<0.02	<0.02	<0.02	5.85	0.2	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	63.7	96.0
MW2284	0939_MW2284_230131	31/01/2023	EM2302832	2.25	0.21	2.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.38	0.15	<0.02	0.64	0.18	0.11	<0.02	<0.02	<0.02	0.46	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.64	6.77
MW2284	0939_MW2284_230712	12/07/2023	EM2312858-AE	14.1	1.62	15.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.85	1.01	<0.02	5.18	1.02	0.72	<0.02	<0.02	<0.02	2.48	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	29.4	44.9
MW2285	0939_GW2285_181127	27/11/2018	630138	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2285	0939_GW2285_D_190220	20/02/2019	642294	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2285	0939_MW2285_200323	23/03/2020	ES2010099	0.85	0.02	0.30	<0.05	0.12	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.15	1.36
MW2285	0939_MW2285_200720	20/07/2020	EM2012633	0.63	0.02	0.18	<0.05	0.10	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.81	0.98
MW2285	0939_MW2285_210111	11/01/2021	EM2100359	0.12	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.17	0.17
MW2285	0939_MW2285_210812	12/08/2021	EM2116269	0.11	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.15	0.15
MW2285	0939_MW2285_220131	31/01/2022	EM2201740	0.15	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.2	0.2
MW2285	0939_MW2285_220725	25/07/2022	EM2214753	0.13	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.19	0.19
MW2285	0939_MW2285_230130	30/01/2023	EM2302832	12.3	0.33	13.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.44	0.23	<0.02	1.35	0.58	0.12	<0.02	<0.02	<0.02	1.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	26	31.1
MW2285	0939_MW2285_230322	22/03/2023	EM2305133	0.22	<0.01	0.06	<0.05	0.25	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.28	0.53
MW2285	0939_MW2285_230710	10/07/2023	EM2312858-AE	0.14	<0.01	0.05	<0.05	0.17	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.19	0.36
MW2286	0939_GW2286_D_190220	20/02/2019	642294	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2286	0939_MW2286_200323	23/03/2020	ES2010099	1.04	0.04	1.00	<0.05	0.19	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	<0.02	<0.02	0.10	0.06	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.04	2.60
MW2286	0939_MW2286_200720	20/07/2020	EM2012633	1.13	0.04	0.92	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.09	0.06	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.05	2.50
MW2286	0939_MW2286_210111	11/01/2021	EM2100359	0.64	0.02	0.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.04	0.03	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.27	1.46
MW2286	0939_MW2286_210812	12/08/2021	EM2116269	0.44	<0.01	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.76	0.86
MW2286	0939_MW2286_220131	31/01/2022	EM2201740	0.44	0.01	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.8	0.93
MW2286	0939_MW2286_220725	25/07/2022	EM2214753	0.40	<0.01	0.30	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.70	0.79
MW2286	0939_MW2286_230130	30/01/2023	EM2302832	0.4	0.01	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.7	0.79
MW2286	0939_MW2286_230710	10/07/2023	EM2312858-AE	0.33	0.01	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.61	0.67
MW2325	0939_GW0015_S_170728	28/07/2017	556791	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2325	0939_GW0015_S_180628	28/06/2018	605771	<0.01	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2325	0939_MW2325_200320	20/03/2020	ES2010099	0.24	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.29	0.29
MW2325	0661_MW2325_200721	21/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0661_MW2325_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0661_MW2325_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0661_MW2325_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0669_MW2325_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0661_MW2325_230131	31/01/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2325	0669_MW2325_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW2358	0939_GW0008_S_170719	19/07/2017	555189	300	15	360	<0.2	<2	<2	<0.2	<0.01	<0.2	<0.2	52	15	<0.01	87	31	11	<0.2	<0.2	<0.01	44	9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	660	924
MW2358	0939_GW0008_S_180626	26/06/2018	605137	220	13	250	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	38	11	<0.01	57	19	6.8	<0.01	<0.01	<0.01	30	5.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	470	650.7
MW2358	0939_MW2358_200323	23/03/2020	ES2010099	142	9.49	234	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	43.9	9.10	<0.05	50.2	21.8	6.18	<0.05	<0.05	<0.05	25.7	2.9	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	376	545
MW2358	0939_MW2358_200720	20/07/2020	EM2012633	91.1	5.40	135	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	20.6	6.45	<0.05	33.2	7.10	4.05	<0.05	<0.05	<0.05	15.2	4.6	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	226	323
MW2358	0939_MW2358_210111	11/01/2021	EM2100359	177	10.5	265	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	35.1	9.38	<0.04	47.5	17.0	8.08	<0.04	<0.04	<0.04	25.8	2.0	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	442	597
MW2358	0939_MW2358_210812	12/08/2021	EM2116269	56.1	3.35	81.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	9.58	3.79	<0.04	21.5	4.77	2.52	<0.04	<0.04	<0.04	9.98	1.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	138	194
MW2358	0939_MW2358_220201	1/02/2022	EM2201740	32.6	1.95	49	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	8.69	2.45	<0.04	13.4	3.78	1.62	<0.04	<0.04	<0.04	6.28	0.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	81.6	120
MW2358	0939_MW2358_220725	25/07/2022	EM2214753	44.0	2.37	64.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	9.27	3.07	<0.02	14.0	4.42	2.10	<0.02	<0.02	<0.02	8.95	1.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	109	154
MW2358	0939_MW2358_230130	31/01/2023	EM2302832	50.2	2.89	71.1	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	12.7	3.59	<0.04	20.3	5.19	2.36	<0.04	<0.04	<0.04	9.55	1.3	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	121	179
MW2358	0939_MW2358_230710	10/07/2023	EM2312858-AE	124	6.33	153	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	24.4	4.13	<0.04	39.7	7.58	4.98	<0.04	<0.04	<0.04	21.4	2.8	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	277	388
MW2394	0939_GW0303_S_170718	18/07/2017	555016	0.04	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.07
MW2394	0939_GW0303_S_180626	26/06/2018	605137	0.02	<0.01	0.08	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.15
MW2394	0939_MW2394_200323	23/03/2020	ES2010099	0.05	<0.01	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.37	0.50
MW2394	0939_MW2394_200720	20/07/2020	EM2012633	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW2394	0939_MW2394_210111	11/01/2021	EM2100359	0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW2394	0939_MW2394_210812	12/08/2021	EM2116269	0.06	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.1	0.1
MW2394	0939_MW2394_220201	1/02/2022	EM2201740	0.12	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.14	0.14
MW2394	0939_MW2394_220725	25/07/2022	EM2214753	0.06	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.10	0.10
MW2394	0939_MW2394_230130	31/01/2023	EM2302832	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.08	0.08
MW2394	0939_MW2394_220710	10/07/2023	EM2312858-AE	0.07	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	0.09
MW2411	0939_GW0321_S_170718	18/07/2017	555016	3.6	0.02	0.37	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.2	0.02	0.02	<0.01	<0.01	<0.01	0.14	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.97	4.59
MW2411	0939_GW0321_S_180626	26/06/2018	605137	0.37	<0.01	0.17	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.03	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.54	0.84
MW2411	0939_MW2411_200323	23/03/2020	ES2010099	2.47	0.04	0.85	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.06	<0.02	0.25	0.06	0.02	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.32	4.01
MW2411	0939_MW2411_200720	20/07/2020	EM2012633	4.10	0.06	1.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.10	<0.02	0.35	0.09	0.04	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.29	6.28
MW2411	0939_MW2411_210111	11/01/2021	EM2100359	1.38	0.01	0.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.04	<0.02	0.15	0.03	<0.02	0.04	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.92	2.41
MW2411	0939_MW2411_210812	12/08/2021	EM2116269	0.96	0.02	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.05	<0.02	0.22	0.02	<0.02	<0.02	<0.02	<0.02	0.13	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.43	2.29
MW2411	0939_MW2411_220201	1/02/2022	EM2201740	0.8	0.01	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.05	<0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	0.25	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.22	2.14
MW2411	0939_MW2411_220725	25/07/2022	EM2214753	0.17	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.06	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	0.20	0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.60	1.30
MW2411	0939_MW2411_230201	1/02/2023	EM2302832	0.1	<0.01	0.46	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.06	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	0.26	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.56	1.21
MW2411	0939_MW2411_231017	17/10/2023	EM2319686	14.7	0.04	0.55	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.07	<0.02	0.26	0.1	<0.02	0.04	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	15.2	16
MW2490	0939_GW0416_S_180629	29/06/2018	605762	1,600	62	1,300	<2	<2	<2	<2	<2	<2	<2	93	35	<2	210	47	21	<2	<2	<2	80	17	<2	<2	<2	<2	<2	<2	2,900	3,465
MW2490	0939_MW2490_200324	24/03/2020	ES2010468	3,960	190	2,710	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	294	95.8	0.85	502	169	63.4	<0.50	<0.50	<0.50	232	19.8	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	6,670	8,240
MW2490	0939_MW2490_200721	21/07/2020	EM2012633	5,760	220	3,700	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	432	115	<5.00	648	194	80.0	<5.00	<5.00	<5.00	263	57.5	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	9,460	11,500
MW2490	0939_MW2490_210112	12/01/2021	EM2100359	3,270	132	2,270	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	316	61.0	0.43	336	160	48.1	0.17	<0.04	<0.04	159	17.9	<0.10	<0.10	<0.10	<0.10	<0.04	0.28	5,540	6,770
MW2490	0939_MW2490_210802	2/08/2021	EM2115885	2980	122	1930	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.9	181	53.2	<0.36	322	161	41.9	<0.36	<0.36	<0.36	146	9.4	<0.9	<0.9	<0.9	<0.9	<0.36	0.43	4,910	5950
MW2490	0939_MW2490_220201	1/02/2022	EM2202065	2210	77.6	1130	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	188	34.4	<0.39	183	106	26.3	<0.39	<0.39	<0.39	88.9	5.5	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	3340	4050
MW2490	0939_MW2490_220726	26/07/2022	EM2214753	1,950	77.0	1,290	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.84	186	33.3	<0.34	170	110	27.0	<0.34	<0.34	<0.34	82.3	6.0	<0.84	<0.84	<0.34	<0.84	<0.34	<0.34	3,240	3,930
MW2490	0939_MW2490_230131	31/01/2023	EM2302832	310	12.5	193	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	34	7.6	0.09	44.7	11	4.69	0.24	<0.04	<0.04	15	1.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.32	503	635
MW2490	0939_MW2490_230711	11/07/2023	EM2312858-AE	182	10.4	209	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	38.6	7.93	<0.04	83.9	6.9	5.84	0.05	<0.04	<0.04	39	3.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.1	391	587
MW2499	0939_GW0428_S_170725	25/07/2017	556151	370	6.8	99	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	15	6	<0.01	31	8.2	3	<0.01	<0.01	<0.01	14	3.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	469	556.3

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW2499	0939_GW0428_S_180628	28/06/2018	605771	650	9.4	79	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	9.1	<0.2	32	11	3.1	<0.2	<0.2	<0.2	13	3.7	<0.2	<0.2	<0.2	<0.2	<0.2	0.47	729	824.77
MW2499	0939_MW0428S_190301	1/03/2019	EM1903143	318	7.00	61.6	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	11.4	6.70	<1.00	24.2	6.40	3.40	<1.00	<1.00	<1.00	10.3	<5.0	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	380	449
MW2499	0939_MW0428S_190801	1/08/2019	ES1924554	31.3	0.91	9.90	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.24	2.02	0.05	1.59	0.84	0.33	<0.02	<0.02	<0.02	0.89	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.34	41.2	49.4
MW2499	0939_MW2499_200323	23/03/2020	ES2010099	73.8	1.94	14.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.92	2.54	<0.05	4.48	1.30	0.67	0.12	<0.05	<0.05	1.90	0.6	<0.12	<0.12	<0.12	<0.12	<0.05	0.24	88.6	104
MW2499	0939_MW2499_200721	21/07/2020	EM2012633	48.2	1.96	7.82	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.95	3.10	<0.05	3.08	0.50	0.67	<0.05	<0.05	<0.05	0.70	0.7	<0.12	<0.12	<0.12	<0.12	<0.05	0.24	56.0	67.9
MW2499	0939_MW2499_210114	14/01/2021	EM2100517	61.6	2.06	84.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.40	2.50	0.05	3.69	1.94	0.74	0.26	<0.02	<0.02	1.07	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	0.22	146	161
MW2499	0939_MW2499_210812	12/08/2021	EM2116269	189	3.05	16.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	1.94	2.58	0.06	4.9	1.82	0.76	0.09	<0.04	<0.04	1.57	0.7	<0.09	<0.09	<0.09	<0.09	<0.04	0.23	206	224
MW2499	0939_MW2499_220201	1/02/2022	EM2202065	222	2.82	12.5	<0.4	0.49	<0.4	<0.4	<0.4	<0.4	<1	1.06	2.44	<0.4	3.85	1.32	0.56	<0.4	<0.4	<0.4	0.99	<2	<1	<1	<1	<1	<0.4	<0.4	234	248
MW2499	0939_MW2499_220726	26/07/2022	EM2214753	2,560	16.1	117	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.4	6.49	0.43	28.8	33.7	3.39	0.17	<0.03	0.08	10.6	2.1	<0.08	<0.08	<0.03	<0.08	<0.03	0.32	2,680	2,790
MW2499	0939_MW2499_230201	1/02/2023	EM2302832	1530	11.2	90.2	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	10.5	4.94	0.32	21.4	28.1	2.57	0.1	<0.03	0.05	7.41	1.3	<0.08	<0.08	<0.08	<0.08	<0.03	0.93	1620	1710
MW2499	0939_MW2499_230707	7/07/2023	EM2312858-AE	1090	9.78	86.2	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	9.21	3.52	0.23	25	23.3	2.74	0.24	<0.04	0.05	10.8	2.4	<0.09	<0.09	<0.09	<0.09	<0.04	0.78	1180	1260
MW2501	0939_GW0431_S_170803	3/08/2017	557534	0.6	0.02	0.17	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	0.04	0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.92
MW2501	0939_GW0431_S_180626	26/06/2018	605137	0.61	0.03	0.14	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.05	<0.01	0.05	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.75	0.99
MW2501	0939_MW2501_200320	20/03/2020	ES2010099	0.61	0.03	0.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.07	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.81	1.05
MW2501	0939_MW2501_200723	23/07/2020	EM2012841	0.42	0.03	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.09	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.59	0.82
MW2501	0939_MW2501_210114	14/01/2021	EM2100517	0.20	0.02	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.30	0.36
MW2501	0939_MW2501_210802	2/08/2021	EM2115885	0.21	0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.29	0.38
MW2501	0939_MW2501_220202	2/02/2022	EM2202065	0.17	0.02	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.24	0.34
MW2501	0939_MW2501_220726	26/07/2022	EM2214753	0.15	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.21	0.27
MW2501	0939_MW2501_230131	31/01/2023	EM2302832	0.16	0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.24	0.32
MW2501	0939_MW2501_230711	11/07/2023	EM2312858-AE	0.16	0.02	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.23	0.31
MW2528	0939_EDMW04_S_170726	26/07/2017	556590	57	2.2	14	<0.01	0.17	0.07	<0.01	0.01	<0.01	<0.01	1.9	9.5	0.24	11	1.3	1	<0.01	0.01	0.09	3.8	13	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	71	115.56
MW2528	0939_EDMW04_S_180629	29/06/2018	605762	63	2.0	15	<0.01	0.18	0.12	<0.01	0.02	<0.01	<0.01	2.6	5.7	0.20	11	1.1	0.88	0.37	<0.01	0.12	3.6	7.9	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	78	114.03
MW2528	0939_MW2528_200325	25/03/2020	ES2010468	37.2	1.88	12.6	<0.05	0.14	0.06	<0.05	<0.05	<0.05	<0.12	1.72	6.28	0.20	10.5	0.88	0.86	0.27	<0.05	0.10	2.83	5.1	<0.12	<0.12	<0.12	<0.12	<0.05	0.18	49.8	80.8
MW2528	0939_MW2528_200721	21/07/2020	EM2012633	39.0	1.65	12.5	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.12	1.72	5.73	0.18	9.80	0.81	0.82	0.18	<0.05	0.07	2.64	6.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	51.5	82.2
MW2528	0939_MW2528_210112	12/01/2021	EM2100359	48.5	2.15	12.9	<0.05	0.28	0.10	<0.05	<0.02	<0.02	<0.05	1.74	5.36	0.21	9.58	1.27	1.04	0.28	<0.02	0.10	2.73	11.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.17	61.4	97.5
MW2528	0939_MW2528_210802	2/08/2021	EM2115885	58.2	2.52	16.8	<0.05	0.2	0.11	<0.05	<0.04	<0.04	<0.09	2.01	8.09	0.31	15.2	1.49	1.05	0.18	<0.04	0.11	3.72	5.4	<0.09	<0.09	<0.09	<0.09	<0.04	0.07	75	115
MW2528	0939_MW2528_220201	1/02/2022	EM2202065	40.6	1.85	11.8	<0.05	0.17	0.12	<0.05	<0.02	<0.02	<0.05	1.67	5.73	0.24	10.2	0.84	1.04	0.26	<0.02	0.1	2.86	10.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.14	52.4	87.9
MW2528	0939_MW2528_220726	26/07/2022	EM2214753	36.4	1.66	11.3	<0.05	0.15	0.12	<0.05	<0.02	<0.02	<0.05	1.69	6.68	0.21	11.2	1.18	0.96	0.22	<0.02	0.09	2.78	6.6	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	47.7	81.4
MW2528	0939_MW2528_230131	31/01/2023	EM2302832	28.2	1.26	9.29	<0.05	0.1	0.07	<0.05	<0.04	<0.04	<0.09	1.34	5.86	0.18	8.94	0.59	0.72	0.14	<0.04	0.07	2.79	5.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.14	37.5	65.5
MW2528	0939_MW2528_230711	11/07/2023	EM2312858-AE	29.9	1.52	8.45	<0.05	0.13	0.12	<0.05	<0.02	<0.02	<0.05	1.46	4.54	0.19	12.3	0.47	0.83	0.18	<0.02	0.08	2.83	12.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.15	38.4	76
MW4001	0939_GW2101_170620	20/06/2017	551064	3	0.1	0.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.13	0.01	0.25	0.04	0.05	<0.01	<0.01	<0.01	0.09	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.8	4.69
MW4001	0939_GW2101_S_170728	28/07/2017	556791	3.5	0.13	1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.11	0.01	0.29	0.06	0.06	<0.01	<0.01	<0.01	0.09	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.5	5.52
MW4001	0939_GW2101_S_180731	31/07/2018	610368	2.8	0.08	0.87	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.10	<0.01	0.19	0.04	0.04	<0.01	<0.01	<0.01	0.07	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.67	4.37
MW4001	0939_MW4001_200325	25/03/2020	ES2010468	1.47	0.04	0.30	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.77	1.93
MW4001	0939_MW4001_200722	22/07/2020	EM2012841	1.45	0.05	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.80	2.05
MW4001	0939_MW4001_210113	13/01/2021	EM2100517	1.01	0.04	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.24	1.38
MW4001	0939_MW4001_210806	6/08/2021	EM2115885	0.91	0.04	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.23	1.42
MW4001	0939_MW4001_220204	4/02/2022	EM2202066	0.82	0.04	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.04	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.06	1.26
MW4001	0939_MW4001_220725	25/07/2022	EM2214753	0.88	0.04	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.04	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.15	1.32
MW4001	0939_MW4001_230216	16/02/2023	EM2302832	0.91	0.04	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.18	1.32
MW4001	0939_MW4001_230710	10/07/2023	EM2312858-AE	0.98	0.04	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.03	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.25	1.38
MW4003	0939_GW2103_170620	20/06/2017	551064	8.1	0.17	3.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.33	0.09	<0.01	0.42	0.2	0.07	<0.01	<0.01	<0.01	0.3	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	11.3	12.94
MW4003	0939_GW2103_S_170717	17/07/2017	555015	11	0.21	4.3	<0.01	<0.05	<0.01	<0.01	0.01	<0.01	<0.01	0.36	0.1	<0.01	0.47	0.25	0.09	<0.01	<0.01	<0.01	0.28	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15.3	17.14
MW4003	0939_GW2103_S_180731	31/07/2018	610368	13	0.21	4.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.48	0.13	<0.01	0.59	0.29	0.09	<0.01	<0.01	<0.01	0.35	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.8	20.02
MW4003	0939_MW4003_200320	20/03/2020	ES2010099	12.0	0.28	5.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.78	0.12	<0.02	0.66	0.40	0.12	<0.02	<0.02	<0.02	0.38	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	17.2	19.9
MW4003	0939_MW4003_200723	23/07/2020	EM2012841	8.00	0.16	2.74	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.06	<0.02	0.40	0.20	0.06	0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	10.7	12.2
MW4003	0939_MW4003_210113	13/01/2021	EM2100517	8.47	0.23	3.61	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.65	0.08	<0.02	0.46	0.43	0.09	<0.02	<0.02	<0.02	0.29	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.1	14.3
MW4003	0939_MW4003_210805	5/08/2021	EM2115885	8.48	0.23	3.81	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.41	0.08	<0.04	0.48	0.26	0.08	<0.04	<0.04	<0.04	0.31	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	12.3	14.1
MW4003	0939_MW4003_220203	3/02/2022	EM2202066	8.5	0.22	3.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.34	0.09	<0.02	0.42	0.32	0.09	<0.02	<0.02	<0.02	0.36	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12	13.9
MW4003	0939_MW4003_220728	28/07/2022	EM2214753	8.76	0.22	3.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.40	0.10	<0.02	0.47	0.26	0.10	<0.02	<0.02	<0.02	0.32	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	12.5	14.4
MW4003	0939_MW4003_230201	1/02/2023	EM2302832	8.85	0.21	3.48	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.42	0.09	<0.02	0.45	0.27	0.08	<0.02	<0.02	<0.02	0.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.3	14.2
MW4003	0939_MW4003_230712	12/07/2023	EM2312858-AE	9.4	0.22	3.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	0.09	<0.02	0.44	0.28	0.09	<0.02	<0.02	<0.02	0.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	13.2	15
MW4009	0939_GW2123_S_180208	8/02/2018	584331	0.10	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	0.11
MW4009	0939_GW2123_S_180730	30/07/2018	610368	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4009	0939_GW2123_S_180905	5/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4009	0939_MW4009_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4009	0939_MW4009_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4009	0939_MW4009_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4013	0939_GW2141_170620	20/06/2017	551064	8.7	0.24	4.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.28	0.1	<0.01	0.45	0.17	0.08	<0.01	<0.01	<0.01	0.2	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	13.4	14.98
MW4013	0939_GW2141_S_170717	17/07/2017	555015	13	0.24	4.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.37	0.1	<0.01	0.52	0.25	0.09	<0.01	<0.01	<0.01	0.27	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.6	19.52
MW4013	0939_GW2141_S_180801	1/08/2018	610368	7.2	0.12	2.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	0.07	<0.01	0.34	0.16	0.05	<0.01	<0.01	<0.01	0.18	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.3	10.53
MW4013	0939_MW4013_200320	20/03/2020	ES2010099	7.88	0.24	4.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.35	0.11	<0.02	0.53	0.28	0.09	<0.02	<0.02	<0.02	0.28	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	12.1	14.0
MW4013	0939_MW4013_200723	23/07/2020	EM2012841	5.70	0.13	2.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.06	<0.02	0.36	0.15	0.06	<0.02	<0.02	<0.02	0.20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.12	9.34
MW4013	0939_MW4013_210113	13/01/2021	EM2100517	5.11	0.15	2.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.48	0.05	<0.02	0.36	0.24	0.06	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	7.63	9.18
MW4013	0939_MW4013_210806	6/08/2021	EM2115885	3.98	0.11	2.35	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.26	0.12	<0.04	0.36	0.09	<0.04	<0.04	<0.04	<0.04	0.22	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	6.33	7.49
MW4013	0939_MW4013_220204	4/02/2022	EM2202066	3.89	0.13	2.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.28	0.15	<0.02	0.43	0.11	0.07	<0.02	<0.02	<0.02	0.3	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.95	7.52
MW4013	0939_MW4013_220727	27/07/2022	EM2214753	3.72	0.12	2.33	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.12	<0.02	0.32	0.11	0.06	<0.02	<0.02	<0.02	0.25	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	6.05	7.27
MW4013	0939_MW4013_230216	16/02/2023	EM2302832	3.08	0.1	1.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.09	<0.02	0.26	0.09	0.04	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.94	5.85
MW4013	0939_MW4013_230712	12/07/2023	EM2312858-AE	1.77	0.2	4.56	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.21	0.53	<0.02	1.56	0.12	0.15	<0.02	<0.02	<0.02	1.27	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	6.33	11.6
MW4015	0939_GW2143_170620	20/06/2017	551064	10	0.29	7.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	0.14	<0.01	0.75	0.26	0.1	<0.01	<0.01	<0.01	0.41	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.1	19.64
MW4015	0939_GW2143_S_170717	17/07/2017	555015	10	0.21	5.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.47	0.12	<0.01	0.6	0.3	0.08	<0.01	<0.01	<0.01	0.37	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15.3	17.54
MW4015	0939_GW2143_S_180801	1/08/2018	610368	13	0.28	6.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.88	0.15	<0.01	0.91	0.47	0.11	<0.01	<0.01	<0.01	0.50	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.8	23.22
MW4015	0939_MW4015_200326	26/03/2020	ES2010684	11.6	0.26	7.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.68	0.14	<0.02	0.85	0.40	0.10	<0.02	<0.02	<0.02	0.50	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	19.4	22.5
MW4015	0939_MW4015_200723	23/07/2020	EM2012841	11.9	0.32	8.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.02	0.18	<0.02	1.03	0.51	0.12	<0.02	<0.02	<0.02	0.53	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	20.2	24.0
MW4015	0939_MW4015_210114	14/01/2021	EM2100517	6.50	0.18	4.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.88	0.07	<0.02	0.55	0.46	0.07	<0.02	<0.02	<0.02	0.30	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	11.2	13.7
MW4015	0939_MW4015_210805	5/08/2021	EM2115885	7.67	0.2	5.83	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.48	0.1	<0.04	0.64	0.26	0.07	<0.04	<0.04	<0.04	0.32	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	13.5	15.6
MW4015	0939_MW4015_220203	3/02/2022	EM2202066	5.96	0.14	3.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.08	<0.02	0.4	0.21	0.06	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	9.68	11.1
MW4015	0939_MW4015_220728	28/07/2022	EM2214753	6.64	0.16	4.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.40	0.09	<0.02	0.49	0.23	0.07	<0.02	<0.02	<0.02	0.26	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	11.4	13.1
MW4015	0939_MW4015_220215	15/02/2023	EM2302832	5.13	0.1	3.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.3	0.05	<0.02	0.25	0.16	0.04	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.17	9.31
MW4015	0939_MW4015_230713	13/07/2023	EM2312858-AE	5.89	0.12	4.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.4	0.04	<0.02	0.37	0.16	0.04	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	9.91	11.3
MW4020	0939_GW2222_S_180417	17/04/2018	594277	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4020	0939_GW2222_S_180730	30/07/2018	610368	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4020	0939_MW4020_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4020	0939_MW4020_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_GW2223_I_180717	17/07/2018	608379	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4021	0939_GW2223_I_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4021	0939_MW4021_200320	20/03/2020	ES2010099	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4021	0939_MW4021_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_230221	21/02/2023	EM2303629	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_GW2224_I_180717	17/07/2018	608379	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4022	0939_GW2224_I_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4022	0939_MW4022_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_200722	22/07/2020	EM2012841	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4022	0939_MW4022_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4022	0939_MW4022_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4023	0939_GW2225_S_180208	8/02/2018	584331	1.3	0.03	0.82	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.14	0.06	0.02	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.12	2.49
MW4023	0939_GW2225_S_180731	31/07/2018	610368	1.4	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.03	<0.01	0.19	0.13	0.02	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.5	3.1
MW4023	0939_MW4023_200320	20/03/2020	ES2010099	1.14	0.05	1.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.22	0.11	0.03	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.38	3.02
MW4023	0939_MW4023_200722	22/07/2020	EM2012841	1.14	0.06	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.03	<0.02	0.23	0.10	0.03	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.55	3.20
MW4023	0939_MW4023_210112	12/01/2021	EM2100359	0.68	0.03	0.88	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.12	0.07	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.56	1.88
MW4023	0939_MW4023_210803	3/08/2021	EM2115885	0.92	0.04	1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.17	0.08	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.92	2.36
MW4023	0939_MW4023_220202	2/02/2022	EM2202065	0.8	0.04	0.87	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.14	0.08	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.67	2.08
MW4023	0939_MW4023_220727	27/07/2022	EM2214753	0.74	0.04	0.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.14	0.09	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.60	2.01
MW4023	0939_MW4023_230216	16/02/2023	EM2302832	0.59	0.03	0.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.11	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.31	1.6
MW4023	0939_MW4023_230710	10/07/2023	EM2312858-AE	0.6	0.02	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.24	1.48
MW4024	0939_GW2226_I_180717	17/07/2018	608379	0.71	0.03	0.82	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.08	0.05	0.02	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.53	1.81
MW4024	0939_GW2226_I_180731	31/07/2018	610368	0.56	0.03	0.56	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.01	<0.01	0.09	0.05	0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.12	1.38
MW4024	0939_MW4024_200320	20/03/2020	ES2010099	0.61	0.03	0.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.13	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.47	1.80
MW4024	0939_MW4024_200722	22/07/2020	EM2012841	0.66	0.03	0.78	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.44	1.77
MW4024	0939_MW4024_210112	12/01/2021	EM2100359	0.40	0.02	0.50	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.90	1.14
MW4024	0939_MW4024_210803	3/08/2021	EM2115885	0.45	0.02	0.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.1	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.03	1.25
MW4024	0939_MW4024_220202	2/02/2022	EM2202065	0.42	0.02	0.53	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.95	1.13
MW4024	0939_MW4024_220727	27/07/2022	EM2214753	0.44	0.02	0.56	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.00	1.18
MW4024	0939_MW4024_230216	16/02/2023	EM2302832	0.47	0.02	0.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.01	1.23
MW4024	0939_MW4024_230710	10/07/2023	EM2312858-AE	0.35	0.02	0.45	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.07	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.8	0.96
MW4027	0939_GW2229_S_180327	27/03/2018	591628	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4027	0939_GW2229_S_180730	30/07/2018	610368	0.31	<0.01	0.12	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.43	0.57
MW4027	0939_GW2229_S_180731	31/07/2018	610368	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW4027	0939_MW4027_200327	27/03/2020	ES2011023	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW4027	0939_MW4027_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4027	0939_MW4027_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4027	0939_MW4027_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4027	0939_MW4027_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4027	0939_MW4027_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4027	0939_MW4027_231027	27/10/2023	EM2319686	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4035	0939_GW2237_I_180717	17/07/2018	608379	26	0.50	12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.66	0.35	<0.01	0.89	0.60	0.18	<0.01	<0.01	<0.01	0.61	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	38	41.92
MW4035	0939_GW2237_I_180731	31/07/2018	610368	33	0.50	11	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.87	0.21	<0.01	1.2	0.57	0.18	0.05	<0.01	<0.01	0.63	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	44	48.37
MW4035	0939_MW4035_200320	20/03/2020	ES2010099	10.4	0.19	3.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.58	0.09	<0.02	0.49	0.34	0.08	<0.02	<0.02	<0.02	1.00	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	14.3	17.1
MW4035	0939_MW4035_200723	23/07/2020	EM2012841	9.50	0.31	3.78	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.74	0.13	<0.02	0.76	0.52	0.13	<0.02	<0.02	<0.02	1.27	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	13.3	17.2
MW4035	0939_MW4035_210113	13/01/2021	EM2100517	11.5	0.27	4.67	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.90	0.08	<0.02	0.61	0.71	0.11	<0.02	<0.02	<0.02	1.00	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	16.2	19.8
MW4035	0939_MW4035_210805	5/08/2021	EM2115885	13.7	0.32	6.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.62	0.15	<0.04	0.84	0.49	0.13	<0.04	<0.04	<0.04	0.78	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	20.1	23.4
MW4035	0939_MW4035_220203	3/02/2022	EM2202066	9.58	0.19	3.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.36	0.08	<0.02	0.47	0.33	0.08	<0.02	<0.02	<0.02	0.61	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	13	15.1
MW4035	0939_MW4035_220728	28/07/2022	EM2214753	12.8	0.32	6.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.64	0.14	<0.02	0.74	0.46	0.14	<0.02	<0.02	<0.02	0.72	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	18.9	22.0
MW4035	0939_MW4035_230216	16/02/2023	EM2302832	5.79	0.11	2.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.22	0.05	<0.02	0.24	0.19	0.04	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	7.95	9.03
MW4035	0939_MW4035_230710	10/07/2023	EM2312858-AE	2.32	0.04	0.81	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.06	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	3.13	3.49
MW4037	0939_GW2239_S_180305	5/03/2018	588459	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4037	0939_GW2239_S_180731	31/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4037	0939_MW4037_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4037	0939_MW4037_200723	23/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4037	0939_MW4037_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4037	0939_MW4037_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4037	0939_MW4037_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4037	0939_MW4037_220727	27/07/2022	EM2214753	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.01	0.01
MW4037	0939_MW4037_230216	16/02/2023	EM2302832	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4037	0939_MW4037_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4041	0939_GW2243_S_180608	8/06/2018	602681	0.06	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.1
MW4041	0939_GW2243_S_180731	31/07/2018	610368	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4041	0939_MW4041_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4041	0939_MW4041_200722	22/07/2020	EM2012841	0.05	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.05	0.05
MW4041	0939_MW4041_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4041	0939_MW4041_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																												
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																													
MW4041	0939_MW4041_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4041	0939_MW4041_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4041	0939_MW4041_230216	16/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4041	0939_MW4041_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4045	0939_GW2247_I_180730	30/07/2018	610368	1.2	0.02	0.35	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.01	<0.01	0.04	0.02	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.55	1.71
MW4045	0939_GW2247_I_190219	19/02/2019	642294	0.67	0.01	0.20	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.87	0.97
MW4045	0939_MW4045_200324	24/03/2020	ES2010468	0.49	0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.64	0.67
MW4045	0939_MW4045_200722	22/07/2020	EM2012841	0.47	0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.63	0.69
MW4045	0939_MW4045_210113	13/01/2021	EM2100517	0.27	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.36	0.38
MW4045	0939_MW4045_210803	3/08/2021	EM2115885	0.29	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.37	0.37
MW4045	0939_MW4045_220131	31/01/2022	EM2201740	0.27	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.35	0.37
MW4045	0939_MW4045_220725	25/07/2022	EM2214753	0.21	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.29	0.29
MW4045	0939_MW4045_230215	17/02/2023	EM2302832	0.2	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.26	0.26
MW4045	0939_MW4045_230710	10/07/2023	EM2312858-AE	0.16	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.21	0.21
MW4048	0939_GW2250_I_180327	27/03/2018	591628	1.1	0.06	0.59	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.06	0.01	0.12	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.69	2.1
MW4048	0939_GW2250_I_180731	31/07/2018	610368	1.6	0.07	0.57	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.06	<0.01	0.14	0.03	0.04	<0.01	<0.01	<0.01	0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.17	2.7
MW4048	0939_MW4048_200325	25/03/2020	ES2010468	0.86	0.06	0.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.05	<0.02	0.13	0.02	0.03	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.40	1.79
MW4048	0939_MW4048_200722	22/07/2020	EM2012841	1.02	0.06	0.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.05	<0.02	0.13	0.03	0.03	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.54	1.94
MW4048	0939_MW4048_210113	13/01/2021	EM2100517	0.73	0.04	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.09	1.36
MW4048	0939_MW4048_210806	6/08/2021	EM2115885	0.6	0.04	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.96	1.2
MW4048	0939_MW4048_220204	4/02/2022	EM2202066	0.68	0.04	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.97	1.23
MW4048	0939_MW4048_220725	25/07/2022	EM2214753	0.60	0.04	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.92	1.17
MW4048	0939_MW4048_230216	16/02/2023	EM2302832	0.51	0.03	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.79	0.95
MW4048	0939_MW4048_230710	10/07/2023	EM2312858-AE	0.52	0.03	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.8	0.93
MW4052	0939_GW2254_S_180208	8/02/2018	584331	0.07	0.02	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.12
MW4052	0939_GW2254_S_180730	30/07/2018	610368	0.05	0.02	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
MW4052	0939_MW4052_200324	24/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4052	0939_MW4052_200722	22/07/2020	EM2012841	0.04	0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.05
MW4052	0939_MW4052_210113	13/01/2021	EM2100517	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4052	0939_MW4052_210803	3/08/2021	EM2115885	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4052	0939_MW4052_220203	3/02/2022	EM2202066	0.04	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW4052	0939_MW4052_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4052	0939_MW4052_230115	16/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4052	0939_MW4052_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4053	0939_GW2255_S_180202	2/02/2018	583482	0.89	0.03	0.37	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01	0.04	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.26	1.48
MW4053	0939_GW2255_S_180730	30/07/2018	610368	1.6	0.04	0.55	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.03	0.03	<0.01	<0.01	<0.01	<0.01	0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.15	2.45
MW4053	0939_MW4053_200324	24/03/2020	ES2010468	0.88	0.03	0.44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.32	1.49
MW4053	0939_MW4053_200722	22/07/2020	EM2012841	0.84	0.03	0.37	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.21	1.36
MW4053	0939_MW4053_210113	13/01/2021	EM2100517	0.56	0.02	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.82	0.92
MW4053	0939_MW4053_210803	3/08/2021	EM2115885	0.49	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.71	0.79
MW4053	0939_MW4053_220131	31/01/2022	EM2201740	0.67	0.02	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.94	1.05
MW4053	0939_MW4053_220725	25/07/2022	EM2214753	0.81	0.03	0.37	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	1.18	1.32
MW4053	0939_MW4053_230215	15/02/2023	EM2302832	0.91	0.03	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.31	1.51
MW4053	0939_MW4053_230710	10/07/2023	EM2312858-AE	0.72	0.02	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.06	1.16
MW4055	0939_GW2257_S_180615	15/06/2018	603430	0.77	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.77
MW4055	0939_GW2257_S_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4055	0939_GW2257_S_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4055	0939_MW4055_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_210113	13/01/2021	EM2100517	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4055	0939_MW4055_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_230216	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4055	0939_MW4055_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4057	0939_GW2259_S_180608	8/06/2018	602681	0.22	0.02	0.11	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	0.46
MW4057	0939_GW2259_S_180621	21/06/2018	604655	0.20	0.02	0.10	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.3	0.41

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4057	0939_GW2259_S_180731	31/07/2018	610368	0.24	0.02	0.12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.36	0.5
MW4057	0939_GW2259_S_190219	19/02/2019	642294	0.06	0.02	0.12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.3
MW4057	0939_MW4057_200326	26/03/2020	ES2010684	0.12	0.05	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.31	0.52
MW4057	0939_MW4057_200723	23/07/2020	EM2012841	0.09	0.04	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.25	0.41
MW4057	0939_MW4057_210114	14/01/2021	EM2100517	0.10	0.04	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.25	0.41
MW4057	0939_MW4057_210805	5/08/2021	EM2115885	0.07	0.02	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.19	0.25
MW4057	0939_MW4057_220203	3/02/2022	EM2202066	0.05	0.02	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.15	0.21
MW4057	0939_MW4057_220728	28/07/2022	EM2214753	0.04	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.10	0.14
MW4057	0939_MW4057_230215	15/02/2023	EM2302832	0.18	0.04	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.37	0.54
MW4057	0939_MW4057_230710	10/07/2023	EM2312858-AE	0.22	0.06	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.03	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.43	0.64
MW4058	0939_GW2260_S_180604	4/06/2018	601793	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4058	0939_GW2260_S_180731	31/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4058	0939_GW2260_S_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4058	0939_MW4058_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_22020	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4058	0939_MW4058_230710	13/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_GW2261_S_180604	4/06/2018	601793	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW4059	0939_GW2261_S_180731	31/07/2018	610368	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4059	0939_MW4059_200320	20/03/2020	ES2010099	0.04	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.04
MW4059	0939_MW4059_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4059	0939_MW4059_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_GW2262_S_180604	4/06/2018	601793	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4060	0939_GW2262_S_180731	31/07/2018	610368	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4060	0939_MW4060_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4061	0939_GW2263_S_180604	4/06/2018	601793	0.03	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.11
MW4061	0939_GW2263_S_180730	30/07/2018	610368	0.02	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW4061	0939_MW4061_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_200722	22/07/2020	EM2012841	0.02	0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.05	0.09
MW4061	0939_MW4061_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_220202	2/02/2022	EM2202065	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4061	0939_MW4061_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_230101	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4063	0939_GW2265_S_181010	10/10/2018	622548	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1
MW4064	0939_GW2266_S_180904	4/09/2018	616328	0.03	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4064	0939_MW4064_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_200723	23/07/2020	EM2012841	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4064	0939_MW4064_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4064	0939_MW4064_220728	28/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_GW2267_I_180904	4/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4065	0939_MW4065_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4066	0939_GW2268_I_180904	4/09/2018	616328	0.1	0.02	0.32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	<0.01	0.06	<0.01	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.42	0.62
MW4066	0939_GW2268_I_190219	19/02/2019	642294	0.06	0.02	0.21	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	0.44
MW4066	0939_MW4066_200326	26/03/2020	ES2010684	0.07	0.02	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.28	0.48
MW4066	0939_MW4066_200723	23/07/2020	EM2012841	0.08	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.3	0.51
MW4066	0939_MW4066_210114	14/01/2021	EM2100517	0.06	0.02	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.22	0.39
MW4066	0939_MW4066_210805	5/08/2021	EM2115885	0.05	0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.23	0.36
MW4066	0939_MW4066_220203	3/02/2022	EM2202066	0.05	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.19	0.31
MW4066	0939_MW4066_220728	28/07/2022	EM2214753	0.04	0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.2	0.3
MW4066	0939_MW4066_230215	15/02/2023	EM2302832	0.04	0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.19	0.29
MW4066	0939_MW4066_230710	10/07/2023	EM2312858-AE	0.05	0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.18	0.23
MW4068	0939_GW2276_D_180906	6/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4068	0939_GW2276_D_190226	26/02/2019	642944	1.4	0.04	0.74	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.02	<0.01	0.11	0.06	0.02	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.14	2.56
MW4068	0939_MW4068_200320	20/03/2020	ES2010099	15.7	0.34	6.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.99	0.16	<0.02	0.83	0.6	0.14	<0.02	<0.02	<0.02	0.51	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	22.5	26.2
MW4068	0939_MW4068_200723	23/07/2020	EM2012841	13.3	0.31	5.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.81	0.13	<0.02	0.74	0.54	0.13	<0.02	<0.02	<0.02	0.52	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	18.4	21.6
MW4068	0939_MW4068_210113	13/01/2021	EM2100517	9.4	0.22	3.56	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.77	0.09	<0.02	0.51	0.49	0.1	<0.02	<0.02	<0.02	0.31	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	13	15.4
MW4068	0939_MW4068_210805	5/08/2021	EM2115885	6.87	0.15	3.21	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.32	0.07	<0.04	0.39	0.21	0.05	<0.04	<0.04	<0.04	0.25	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	10.1	11.5
MW4068	0939_MW4068_220131	31/01/2022	EM2201740	5.69	0.14	2.5	<0.05	0.13	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.08	<0.02	0.32	0.2	0.06	0.27	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	8.19	9.92
MW4068	0939_MW4068_220725	25/07/2022	EM2214753	5.91	0.12	2.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.06	<0.02	0.27	0.2	0.05	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	8.3	9.5
MW4068	0939_MW4068_220215	15/02/2023	EM2302832	5.65	0.12	2.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.06	<0.02	0.27	0.18	0.05	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	7.83	8.96
MW4068	0939_MW4068_230710	10/07/2023	EM2312858-AE	4.69	0.1	1.93	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.04	<0.02	0.22	0.14	0.04	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	6.62	7.59
MW4069	0939_GW2277_D_180906	6/09/2018	616328	3.1	0.09	1.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.06	<0.01	0.23	0.07	0.04	0.02	<0.01	<0.01	0.09	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.3	5.07
MW4069	0939_GW2277_D_190219	19/02/2019	642294	2.1	0.06	0.67	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.16	0.04	0.03	<0.01	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.77	3.32
MW4069	0939_MW4069_200325	25/03/2020	ES2010468	1.74	0.07	0.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.05	<0.02	0.16	0.04	0.03	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.68	3.22
MW4069	0939_MW4069_200722	22/07/2020	EM2012841	3	0.11	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.08	<0.02	0.27	0.07	0.05	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	4.41	5.3
MW4069	0939_MW4069_210113	13/01/2021	EM2100517	1.39	0.05	0.69	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.04	<0.02	0.11	0.03	0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.08	2.49
MW4069	0939_MW4069_210806	6/08/2021	EM2115885	1.58	0.06	0.77	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.05	<0.02	0.13	0.04	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.35	2.84
MW4069	0939_MW4069_220204	4/02/2022	EM2202066	1.44	0.06	0.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.04	<0.02	0.12	0.03	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	2.07	2.52
MW4069	0939_MW4069_220725	25/07/2022	EM2214753	1.49	0.05	0.74	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.05	<0.02	0.14	0.04	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	2.23	2.71
MW4069	0939_MW4069_230216	16/02/2023	EM2302832	0.99	0.03	0.48	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.06	0.03	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.47	1.69
MW4069	0939_MW4069_230710	10/07/2023	EM2312858-AE	1.29	0.06	0.67	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.04	<0.02	0.1	0.03	0.03	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	1.96	2.36
MW4070	0939_GW2278_181127	27/11/2018	630138	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4070	0939_GW2278_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4070	0939_MW4070_200324	24/03/2020	ES2010468	0.07	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.07
MW4070	0939_MW4070_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4070	0939_MW4070_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4070	0939_MW4070_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4070	0939_MW4070_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4070	0939_MW4070_220725	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4070	0939_MW4070_230215	16/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4070	0939_MW4070_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4071	0939_GW2279_D_181220	20/12/2018	EB1900412	<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	<0.05	<0.05	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05
MW4071	0939_GW2279_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4071	0939_MW4071_200320	20/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.1
MW4071	0939_MW4071_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4071	0939_MW4071_210112	12/01/2021	EM2100359	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4071	0939_MW4071_210803	3/08/2021	EM2115885	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																												
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																													
MW4071	0939_MW4071_220131	31/01/2022	EM2201740	0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.01	0.01
MW4071	0939_MW4071_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4071	0939_MW4071_230215	15/02/2023	EM2302832	0.02	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4071	0939_MW4071_230710	10/07/2023	EM2312858-AE	0.02	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4072	0939_GW2280_S_180904	4/09/2018	616328	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4072	0939_QC102_200320	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4072	0939_MW4072_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4072	0939_MW4072_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4072	0939_MW4072_220203	3/02/2022	EM2202066	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_220727	27/07/2022	EM2214753	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_230201	1/02/2023	EM2302832	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4072	0939_MW4072_230712	12/07/2023	EM2312858-AE	0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4073	0939_GW2282_D_181101	1/11/2018	625607	0.04	0.03	0.29	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.04	<0.01	0.01	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	0.57
MW4073	0939_GW2282_D_181220	20/12/2018	EB1900412	0.24	0.06	0.54	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.07	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	0.78	1.13
MW4073	0939_GW2282_D_190219	19/02/2019	642294	0.02	0.03	0.27	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.29	0.59
MW4073	0939_MW4073_200326	27/03/2020	ES2010684	0.2	0.12	0.4	<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	<0.05	0.1	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	0.6	0.82
MW4073	0939_MW4073_200723	23/07/2020	EM2012841	0.07	0.04	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.49	0.79
MW4073	0939_MW4073_210114	14/01/2021	EM2100517	0.07	0.03	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.3	0.45
MW4073	0939_MW4073_210805	5/08/2021	EM2115885	0.07	0.03	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.30	0.45
MW4073	0939_MW4073_220203	3/02/2022	EM2202066	0.07	0.04	0.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.32	0.48
MW4073	0939_MW4073_220728	28/07/2022	EM2214753	0.06	0.04	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.32	0.49
MW4073	0939_MW4073_230215	15/02/2023	EM2302832	0.07	0.03	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.28	0.4
MW4073	0939_MW4073_230710	10/07/2023	EM2312858-AE	0.07	0.02	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.26	0.38
MW4074	0939_GW2283_D_181220	20/12/2018	EB1900412	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4074	0939_GW2283_D_190219	19/02/2019	642294	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4074	0939_MW4074_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4074	0939_MW4074_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4074	0939_MW4074_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4074	0939_MW4074_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4074	0939_MW4074_220131	31/01/2022	EM2201740	0.09	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	0.09
MW4074	0939_MW4074_220725	25/07/2022	EM2214753	0.15	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.15	0.15
MW4074	0939_MW4074_230216	16/02/2023	EM2302832	0.15	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.15	0.15
MW4074	0939_MW4074_230710	10/07/2023	EM2312858-AE	0.16	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.16	0.16
MW4075	0939_GW2287_D_190219	19/02/2019	642294	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4075	0939_MW4075_200325	25/03/2020	ES2010468	0.07	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.21	0.3
MW4075	0939_MW4075_200722	22/07/2020	EM2012841	0.05	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.13	0.2
MW4075	0939_MW4075_210113	13/01/2021	EM2100517	0.05	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.13	0.18
MW4075	0939_MW4075_210806	6/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4075	0939_MW4075_220204	4/02/2022	EM2202066	0.11	0.02	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.12	<0.02	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.45	0.78
MW4075	0939_MW4075_220725	25/07/2022	EM2214753	0.1	0.02	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.4	0.6
MW4075	0939_MW4075_230216	16/02/2023	EM2302832	0.53	0.22	5.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.03	0.24	<0.02	1.21	0.1	0.19	<0.02	<0.02	<0.02	0.81	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	5.63	9.43
MW4075	0939_MW4075_230710	10/07/2023	EM2312858-AE	0.58	0.26	6.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.35	0.19	<0.02	1.71	0.08	0.24	<0.02	<0.02	<0.02	0.98	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	6.82	11.7
MW4076	0939_GW2288_190129	29/01/2019	637994	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4076	0939_GW2288_I_190219	19/02/2019	642294	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4076	0939_MW4076_200324	24/03/2020	ES2010468	0.22	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.29	0.29
MW4076	0939_MW4076_200723	23/07/2020	EM2012841	0.09	0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.13	0.14
MW4076	0939_MW4076_210113	13/01/2021	EM2100517	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4076	0939_MW4076_220728	28/07/2022	EM2214753	0.02	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.04	0.04
MW4076	0939_MW4076_230215	15/02/2023	EM2302832	0.03	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.04
MW4076	0939_MW4076_231027	27/10/2023	EM2319686	0.02	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4077	0939_GW2289_D_181220	20/12/2018	EB1900412	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
MW4077	0939_GW2289_I_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4077	0939_MW4077_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4077	0939_MW4077_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.03	0.03
MW4077	0939_MW4077_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4077	0939_MW4077_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4077	0939_MW4077_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4077	0939_MW4077_220727	27/07/2022	EM2214753	0.04	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.05	0.05
MW4077	0939_MW4077_230221	21/02/2023	EM2303629	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4077	0939_MW4077_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_GW2290_190131	31/01/2019	638739	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4078	0939_GW2290_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4078	0939_MW4078_200324	24/03/2020	ES2010468	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.06	0.06
MW4078	0939_MW4078_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_230215	15/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_230710	10/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4079	0939_GW2291_D_190226	26/02/2019	642944	0.03	0.01	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW4079	0939_MW4079_200326	26/03/2020	ES2010684	0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.04
MW4079	0939_MW4079_200723	23/07/2020	EM2012841	0.62	0.02	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.88	1.05
MW4079	0939_MW4079_210114	14/01/2021	EM2100517	0.02	0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	0.27
MW4079	0939_MW4079_210805	5/08/2021	EM2115885	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.07
MW4079	0939_MW4079_220203	3/02/2022	EM2202066	<0.01	0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.04	0.08
MW4079	0939_MW4079_220728	28/07/2022	EM2214753	0.01	0.02	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.07	0.14
MW4079	0939_MW4079_230215	15/02/2023	EM2302832	0.02	0.02	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.14	0.25
MW4079	0939_MW4079_230710	13/07/2023	EM2312858-AE	0.02	0.02	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.11	0.19
MW4218	0939_MW4218_200819	19/08/2020	EM2014415	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4218	0939_MW4218_230711	11/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4219	0939_MW4219_200723	23/07/2020	EM2012841	0.49	0.03	0.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.06	<0.02	0.09	0.03	0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.9	1.28
MW4219	0939_MW4219_210113	13/01/2021	EM2100517	0.2	0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.38	0.48
MW4219	0939_MW4219_210803	3/08/2021	EM2115885	0.28	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.5	0.63
MW4219	0939_MW4219_220203	3/02/2022	EM2202066	0.22	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.36	0.42
MW4219	0939_MW4219_220728	28/07/2022	EM2214753	0.18	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	0.34	0.38
MW4219	0939_MW4219_230201	1/02/2023	EM2302832	0.17	<0.01	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.36	0.42
MW4219	0939_MW4219_230712	12/07/2023	EM2312858-AE	0.17	<0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.32	0.39
MW4220	0939_MW20327_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.02	0.02
MW4220	0939_MW20327_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW20327_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW4220_210803	3/08/2021	EM2115882	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW4220_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW4220_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW4220_230201	1/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4220	0939_MW4220_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_21322_D_170807	7/08/2017	557436	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4221	0939_MW21322_200325	25/03/2020	ES2010466	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW21322_200724	24/07/2020	EM2012822	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW21322_210119	19/01/2021	EM2100623	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_210806	6/08/2021	EM2115881	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_220725	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_230216	16/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_FF_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_22767_D_170807	7/08/2017	557436	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4222	0939_MW22767_200325	25/03/2020	ES2010466	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW22767_200724	24/07/2020	EM2012822	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW22767_210119	19/01/2021	EM2100623	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historic PFAS Analytical Results

				PFAS																													
				Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	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	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water				0.07	0.56	0.07																									0.07	
Location Code	**Field ID**	**Date**	**Lab Report**																														
MW4222	0939_MW4222_210806	6/08/2021	EM2115881	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_230216	16/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_FF_230712	12/07/2023	EM2312858-AE	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW15586_200325	25/03/2020	ES2010465	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW15586_210115	15/01/2021	EM2100500	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_210730	30/07/2021	EM2115880	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_220729	29/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_230203	3/02/2023	EM2302832	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_230714	14/07/2023	EM2312835	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01

Table T3: Surface Water Historical Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Corrected redox	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV		
SW003	06/04/2020	6.21	301.4	180.8	1.35	17.9	161.8	367.9	Pale yellow, low turbidity, no odour
SW003	20/07/2020	7.44	155.0	93.0	6.5	11.2	117.1	329.9	Clear, low turbidity, no odour
SW003	05/02/2021	6.23	541.20	324.7	3.58	17.97	159.60	365.63	Light Yellow, low turbidity, no odour. Drain, flows south west. Vegetation.
SW003	13/08/2021	8.15	399.6	239.8	6.92	15.57	-10.3	198.13	Clear, No odour. Approximately 5 m wide, 6 m high. Unlined drain/creek with vegetation.
SW003	25/07/2022	7.30	219	131	4.74	10.7	9.4	222.7	Clear, No odour. Approximately 5 m wide, 6 m high. Unlined drain/creek with vegetation.
SW003	2/02/2023	Dry							
SW003	7/07/2023	7.76	5630	3660	3.96	16.8	-82.1	125.1	Clear, low turbidity, no odour.
SW006	06/04/2020	6.63	225.2	135.1	6.7	20.8	148.1	351.3	Pale yellow, low turbidity, slight organic odour
SW006	20/07/2020	7.28	233.0	139.8	5.9	11.8	131.5	343.7	Pale yellow, low turbidity, no odour
SW006	05/02/2021	6.97	244.80	146.9	5.98	18.87	104.40	309.53	Clear, low turbidity, no odour. Drain, flows south west, vegetation growing in water.
SW006	11/08/2021	6.43	206.4	123.8	5.34	11	66.1	279.1	Clear, No odour. Approximately 3-5 m wide. Unlined drain with vegetation. Flows south west.
SW006	24/07/2022	7.06	267	160	2.56	11.7	52.7	265	Clear, No odour. Approximately 3-5 m wide. Unlined drain with vegetation. Flows south west.
SW006	2/02/2023	6.98	402	261	2.73	19.2	26.2	231	No odour, Dark Brown, No sheen, Medium turbidity
SW006	13/07/2023	8.30	323	210	4.21	11.9	-126.2	85.9	Clear, Low Turbidity, No odour.
SW009	07/04/2020	7.62	471.3	282.8	4.93	22.2	164.4	366.2	Light olive brown, low turbidity, no odour
SW009	20/07/2020	7.86	167.6	100.6	7.2	13.0	163.3	374.3	Light yellow, low turbidity, no odour
SW009	05/02/2021	6.90	133.40	80.0	1.43	19.34	133.30	337.96	Clear, low turbidity, no odour. Drain, flows south west.
SW009	4/08/2021	8	266	159.6	9.06	14.22	188.6	398.38	Clear, No odour. Unlined drain/creek with vegetation, goes under road bridge. Approximtately 15 m wide at the widest, 1-2 m high banks.
SW009	27/07/2022	8.34	442	265	7.80	12.1	-17.1	194.8	Clear, No odour. Unlined drain/creek with vegetation, goes under road bridge. Approximtately 15 m wide at the widest, 1-2 m high banks.
SW009	2/02/2023	7.18	388	252	2.32	17.6	80.1	286.5	No odour, Dark Olive Grey, No sheen, Low turbidity
SW009	13/07/2023	8.08	372	241	6.21	10.3	-41.2	172.5	Clear, Low Turbidity, No odour.
SW010	07/04/2020	7.70	454.2	272.5	4.71	22.2	176.2	378.0	Light olive brown, low turbidity, slight compost odour
SW010	20/07/2020	7.88	175.4	105.2	6.1	14.2	144.6	354.4	Pale yellow, low turbidity, no odour
SW010	05/02/2021	7.16	267.20	160.3	4.75	19.58	104.70	309.12	Light olive brown, low turbidity, no odour. Dam, no apparent flow.
SW010	6/08/2021	8.48	192.4	115.4	9.98	14.87	233.7	442.83	Light Olive Brown, No odour. Approximately 3-5 m drain meets the dam. Unlined drain with vegetation. Flows south west into dam.
SW010	28/07/2022	8.32	233	140	8.25	14.6	1.8	211.2	Yellowish Brown, No odour. Approximately 3-5 m drain meets the dam. Unlined drain with vegetation. Flows south west into dam.
SW010	2/02/2023	8.04	507	330	6.16	17.9	80.1	286.2	No odour, Dark Olive Grey, No sheen, Low turbidity
SW010	13/07/2023	8.02	357	232	7.41	11.6	-41.2	171.2	Clear, Low Turbidity, No odour.
SW011	06/04/2020	6.73	1541.0	924.6	0.65	22.0	-33.7	168.3	Olive yellow, medium turbidity, organic odour
SW011	20/07/2020	Dry							
SW011	05/02/2021	6.36	722.80	433.7	2.82	19.12	127.80	332.68	Clear, low turbidity, no odour. Drain, flows south west.
SW011	4/08/2021	7.99	39	23.4	11.1	13.25	162.2	372.95	Clear, No odour. Approximately 10 m wide by 5 m high. Water draining from wetlands. Drains into three pipes, terraced drop off to drains.
SW011	28/07/2022	7.50	1196	718	7.50	12.4	23.5	235.1	Light Olive Brown, No odour. Approximately 10 m wide by 5 m high. Water draining from wetlands. Drains into three pipes, terraced drop off to drains.
SW011	2/02/2023	Dry							
SW011	13/07/2023	7.58	485	315	4.31	11.9	-130.1	82	Clear, Low Turbidity, No odour.
SW012	06/04/2020	6.98	365.1	219.1	5.56	21.4	158.9	361.5	Pale yellow, low turbidity, no odour
SW012	20/07/2020	8.15	304.4	182.6	9.3	14.5	167.4	376.9	Light yellow, no turbidity, no odour. Stagnant.
SW012	05/02/2021	6.54	382.50	229.5	6.53	21.99	128.90	330.91	Clear, low turbidity, no odour. Drain, stagnant.
SW012	6/08/2021	8.27	209.3	125.6	8.63	13.96	196.3	406.34	Clear, No odour. Unlined drain/creek with vegetation, approximately 1-2 m wide. Flows south east.
SW012	26/07/2022	8.23	353	212	8.90	9.1	25	239.9	Clear, No odour. Unlined drain/creek with vegetation, approximately 1-2 m wide. Flows south east.
SW012	2/02/2023	7.80	651	423	6.05	18.1	33.4	239.3	No odour, Light Olive Brown, No sheen, Low turbidity
SW012	13/07/2023	7.87	389	253	6.12	10.4	52.1	265.7	Clear, Low Turbidity, No odour.
SW017	06/04/2020	6.72	287.7	172.6	3.88	18.3	141.6	347.3	Clear, low turbidity, no odour
SW017	20/07/2020	7.36	249.0	149.4	6.7	11.2	132.5	345.3	Clear, low turbidity, no odour
SW017	05/02/2021	7.01	243.40	146.0	5.65	18.07	158.16	364.09	Yellowish brown, low turbidity, no odour. Drain, flows south west. Vegeation.
SW017	13/08/2021	7.65	411.6	247.0	7.5	15.23	36.2	244.97	Clear, No odour. Approximately 5 m wide by 3 m high unlined drain with vegetation.
SW017	25/07/2022	7.59	320	192	5.27	10.5	-23.9	189.6	Clear, No odour. Approximately 5 m wide by 3 m high unlined drain with vegetation.
SW017	2/02/2023	7.07	357	232	4.97	19.4	36.8	241.4	No odour, Light Olive Brown, No sheen, Medium turbidity
SW017	7/07/2023	7.25	235	153	5.87	12.9	55.5	266.6	Clear, low turbidity, no odour.
SW018	07/04/2020	Dry, inaccesible							
SW018	20/07/2020	7.40	231.0	138.6	7.0	11.1	128.0	340.9	Clear, low turbidity, no odour. Stagnant.
SW018	05/02/2021	7.2	268.5	161.1	4.08	18.45	97.1	302.65	Clear, low turbidity, no odour. Drain, stagnant.
SW018	4/08/2021	7.67	189.8	113.9	8.56	13.77	376.2	586.43	Pale yellow, Low turbidity, No odour. Approximately 6-8 m wide, banks gentle slope to 2 m high. Unlined drain with vegetation. Flows south.
SW018	26/07/2022	8.20	335	201	8.04	11.8	-62.5	149.7	Pale yellow, Low turbidity, No odour. Approximately 6-8 m wide, banks gentle slope to 2 m high. Unlined drain with vegetation. Flows south.
SW018	2/02/2023	7.12	347	225	4.54	19.0	38.1	243.1	No odour, Light Olive Brown, No sheen, Medium turbidity
SW018	7/07/2023	7.74	232	151	9.10	13.7	-67.5	142.8	Clear, low turbidity, no odour.

Table T3: Surface Water Historical Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Corrected redox	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV		
SW019	07/04/2020	6.59	361.0	216.6	4.51	18.0	150.3	356.3	Light olive brown, low turbidity, slight organic odour
SW019	20/07/2020	7.17	121.0	72.6	6.6	12.4	139.0	350.6	Clear, low turbidity, no odour. Stagnant.
SW019	05/02/2021	6.88	126.1	75.7	2.8	17.85	92	298.15	Clear, low turbidity, no odour. Drain, stagnant, vegetation in growing in water.
SW019	4/08/2021	7.86	107.6	64.6	8.41	14.71	209.5	418.79	Light Olive Brown, Medium turbidity, No odour. Approximately 2 m wide by 2 m high concrete drian, vegetation in drain. No apparent flow.
SW019	26/07/2022	7.82	155	93	4.34	13.1	-137.6	73.3	Light Olive Brown, Medium turbidity, No odour. Approximately 2 m wide by 2 m high concrete drian, vegetation in drain. No apparent flow.
SW019	2/02/2023	Dry							
SW019	13/07/2023	Dry							
SW021	06/04/2020	6.34	275.2	165.1	4.93	17.2	149.6	356.4	Pale yellow, no turbidity, slight organic odour
SW021	20/07/2020	7.18	318.6	191.2	6.4	11.9	131.1	343.2	Pale yellow, no turbidity, slight organic odour. Stagnant.
SW021	05/02/2021	6.8	255	153.0	5.42	18.78	109.7	314.92	Light olive brown, low turbidity, no odour. Drain, stagnant.
SW021	4/08/2021	8.08	153.9	92.3	9.19	15.04	266.6	475.56	Pale Yellow, Medium turbidity, No odour. Approximately 10-15 m wide unlined reed filled drain, no apparent flow direction.
SW021	26/07/2022	7.95	426	255	6.84	12.1	-192.1	19.8	Pale Yellow, Medium turbidity, No odour. Approximately 10-15 m wide unlined reed filled drain, no apparent flow direction.
SW021	2/02/2023	7.07	300	195	5.13	19.2	33	237.8	No odour, Light Olive Brown, No sheen, Medium turbidity
SW021	13/07/2023	Dry							
SW028	06/04/2020	6.71	309.7	185.8	1.41	19.1	163.0	367.9	Pale yellow, no turbidity, slight organic odour
SW028	20/07/2020	7.29	202.2	121.3	4.8	12.0	128.9	340.9	Pale yellow, no turbidity, no odour
SW028	05/02/2021	5.39	274.40	164.6	1.27	17.55	157.10	363.55	Clear, low turbidity, no odour. Drain, flows west.
SW028	4/08/2021	8.52	192.8	115.7	11.72	15.61	328	536.39	Light Olive Brown, Turbid, No odour.
SW028	27/07/2022	9.23	234	140	14.50	12.7	-53.1	158.2	Light Olive Brown, Turbid, No odour.
SW028	2/02/2023	6.97	527	343	1.31	18.8	13.6	218.8	No odour, Light Olive Brown, No sheen, Low turbidity
SW028	7/07/2023	7.51	296	192	6.15	13.2	-82.1	128.7	Clear, low turbidity, no odour.
SW029	06/04/2020	6.85	256.2	153.7	2.27	18.9	148.2	353.3	Pale yellow, no turbidity, slight organic odour
SW029	20/07/2020	7.35	229.2	137.5	4.1	12.4	127.8	339.4	Pale yellow, no turbidity, no odour
SW029	05/02/2021	5.83	341.40	204.8	0.48	18.20	136.10	341.90	Clear, low turbidity, no odour. Drain, flows west.
SW029	4/08/2021	8.07	240.1	144.1	12.98	15.3	305	513.7	Brown Green, Turbid, No odour. Approximately 8-10 m wide, banks sloped 4-5 m high. Concrete drain with vegetation on banks.
SW029	27/07/2022	8.62	768	461	9.18	13.5	-112	98.5	Brown Green, Turbid, No odour. Approximately 8-10 m wide, banks sloped 4-5 m high. Concrete drain with vegetation on banks.
SW029	2/02/2023	6.84	980	637	1.17	18.1	148.1	354	No odour, Light Olive Brown, No sheen, Medium turbidity
SW029	7/07/2023	7.55	264	172	8.10	14.4	40.4	250	Clear, low turbidity, no odour.
SW032	06/04/2020	6.46	214.6	128.8	3.02	19.0	156.3	361.3	Pale yellow, no turbidity, no odour
SW032	20/07/2020	8.48	186.5	111.9	6.8	14.1	182.9	392.8	Pale yellow, no turbidity, no odour
SW032	05/02/2021	7.11	149.50	89.7	4.07	20.06	121.20	325.14	Clear, low turbidity, no odour. Drain, flows west.
SW032	4/08/2021	8.4	118.2	70.9	8.53	16.19	370.7	578.51	Light Olive Brown, Low turbidity, No odour. Approximately 4 m wide, banks slope gently 6 m high. Unlined drain with vegetation. No apparent flow direction.
SW032	28/07/2022	8.32	661	397	2.58	10.3	-75.6	138.1	Light Olive Brown, Low turbidity, No odour. Approximately 4 m wide, banks slope gently 6 m high. Unlined drain with vegetation. No apparent flow direction.
SW032	2/02/2023	7.24	319	207	2.20	17.9	63.3	269.4	No odour, Dark Olive Grey, No sheen, Low
SW032	13/07/2023	7.82	301	196	2.61	9.4	32.1	246.7	Light Grey, Low Turbidity, No odour.
SW033	07/04/2020	Dry							
SW033	20/07/2020	7.48	117.0	70.2	7.0	13.5	154.7	365.2	Clear, low turbidity, no odour
SW033	05/02/2021	6.96	144.10	86.5	6.17	19.61	118.10	322.49	Clear, low turbidity, no odour. Drain, flows west
SW033	4/08/2021	7.93	247.2	148.3	12.51	18.79	352.9	558.11	Clear, No odour. Approximately 7 m wide by 5 m high banks. Unlined. Evidence of recent excavation, tyre tracks in drain, soil stockpiled on banks. No apparent flow.
SW033	28/07/2022	8.47	198	119	8.27	17.7	-32	174.3	Yellow, No odour. Approximately 7 m wide by 5 m high banks. Unlined. Evidence of recent excavation, tyre tracks in drain, soil stockpiled on banks. No apparent flow.
SW033	2/02/2023	Dry							
SW033	13/07/2023	Dry							
SW037	07/04/2020	Dry							
SW037	20/07/2020	7.64	113.0	67.8	7.6	11.4	89.9	302.5	Clear, low turbidity, no odour. Stagnant.
SW037	05/02/2021	Dry							
SW037	12/08/2021	Area is moist, insufficient water for sample and parameters.							
SW037	22/07/2022	Dry							
SW037	2/02/2023	Dry							
SW037	7/07/2023	7.59	308	200	2.71	10.8	-10.1	203.1	Brown, medium turbidity, no odour.

Table T3: Surface Water Historical Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Corrected redox	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV		
SW050	07/04/2020								Dry, inaccesible
SW050	20/07/2020	7.79	120.4	72.2	6.0	12.7	175.8	387.1	Pale yellow, low turbidity, no odour
SW050	05/02/2021	7.05	135.5	81.3	5.36	19.26	94.2	298.94	Clear, low turbidity, no odour. Drain, stagnant/no apprent flow direction end of drain, vegetation.
SW050	4/08/2021	8.34	205	123.0	11.79	16.38	289.8	497.42	Clear, No odour. End of drain catchment in bird netted area, reeds and vegetation. No apparent flow direction.
SW050	26/07/2022	8.05	341	204	8.32	13.6	-93.8	116.6	Clear, No odour. End of drain catchment in bird netted area, reeds and vegetation. No apparent flow direction.
SW050	2/02/2023	7.66	528	343	5.23	18.3	32	237.7	No odour, Light Olive Brown, No sheen, Low turbidity
SW050	11/07/2023	7.85	394	256	6.52	13.0	-132.1	78.9	Clear, Low Turbidity, No odour.
SW054	06/04/2020	7.12	384.6	230.8	5.16	21.5	158.2	360.7	Pale yellow, no turbidity, no odour
SW054	20/07/2020	8.36	205.8	123.5	8.2	13.6	136.4	346.8	Pale yellow, low turbidity, no odour. Stagnant.
SW054	05/02/2021	6.96	186.00	111.6	5.95	19.23	103.50	308.27	Light yellow, low turbidity, no odour. Drain, stagnant/no apprent flow direction end of drain. Vegetation.
SW054	4/08/2021	8.24	217.6	130.6	9.43	15.53	345.5	553.97	Clear, No odour. Bird netting area, approx 6-8 m wide, reeds and vegetation.
SW054	29/07/2022	7.48	269	161	9.00	13.1	-30.2	180.7	Clear, No odour. Bird netting area, approx 6-8 m wide, reeds and vegetation.
SW054	2/02/2023	7.25	639	415	5.12	17.5	-2.9	203.6	No odour, Light Olive Brown, No sheen, Low turbidity
SW054	11/07/2023	7.70	322	209	6.41	12.3	11.1	222.8	Clear, Low Turbidity, No odour.
SW058	07/04/2020	7.68	434.0	260.4	4.79	22.1	166.7	368.6	Yellow brown, low turbidity, weak compost odour
SW058	20/07/2020	8.07	203.4	122.0	7.2	14.3	127.6	337.3	Light yellow, low turbidity, no odour
SW058	05/02/2021	7.29	271.00	162.6	5.45	19.59	105.40	309.81	Light olive brown, low turbidity, no odour. Drain, stagnant.
SW058	6/08/2021	8.63	219.8	131.9	8.6	15.66	209.6	417.94	Light Olive Brown, Low turbidity, No odour. At outlet/inlet of dam into the Kaurna Park wetlands. No apparent flow direction.
SW058	28/07/2022	8.12	230	138	9.25	14.0	9.5	219.5	Light Olive Brown, Low turbidity, No odour. At outlet/inlet of dam into the Kaurna Park wetlands. No apparent flow direction.
SW058	2/02/2023	8.01	529	344	4.81	19.4	70.3	274.9	No odour, Dark Olive Brown, No sheen, Turbid
SW058	13/07/2023	8.48	352	229	7.01	11.5	-81.2	131.3	Clear, Low Turbidity, No odour.
SW059	06/04/2020	6.65	169.2	101.5	3.89	21.4	104.7	307.3	Pale yellow, no turbidity, no odour
SW059	20/07/2020	7.71	82.5	49.5	7.0	14.2	126.1	335.9	Pale yellow, no turbidity, no odour. Stagnant.
SW059	05/02/2021	6.61	164.3	98.6	4.7	18.31	109.3	314.99	Clear, low turbidity, no odour. Drain, stagnant.
SW059	4/08/2021	8.26	103.5	62.1	9.48	12.9	329.5	540.6	Light Olive Brown, Low turbidity No odour. Approximately 1 m wide by 2 m high. Pollutant trap at drain. No apparent flow direction, drain orientated east-west. Oil-sheen at surface.
SW059	28/07/2022	8.38	180	108	9.36	13.0	-137.8	73.2	Milky Grey, Low turbidity, No odour. Approximately 1 m wide by 2 m high. Pollutant trap at drain. No apparent flow direction, drain orientated east-west. Oil-sheen at surface.
SW059	2/02/2023	6.99	273	178	2.58	17.9	-51.4	154.7	No odour, Dark Olive Grey, No sheen, Medium turbidity
SW059	13/07/2023	8.27	122	79	4.76	10.8	-22.7	190.5	Clear, Low Turbidity, No odour.
SW062	06/04/2020	7.38	1033.0	619.8	1.73	20.7	150.6	353.9	Pale yellow, no turbidity, slight organic odour
SW062	20/07/2020	7.48	352.6	211.6	5.7	13.4	157.2	367.8	Clear, no turbidity, slight organic odour
SW062	05/02/2021	6.58	469.70	281.8	3.24	19.16	114.40	319.24	Clear, low turbidity, no odour. Drain, flows south west.
SW062	3/08/2021	8.22	337.7	202.6	10.3	14.26	87.5	297.24	Clear, No odour. Approximately 5 m wide, banks to 3 m high. Vegetated, unlined drain. Algae close to banks. Flows south west.
SW062	28/07/2022	7.58	448	269	8.89	13.5	-21.6	188.9	Yellowish Brown, No odour. Approximately 5 m wide, banks to 3 m high. Vegetated, unlined drain. Algae close to banks. Flows south west.
SW062	2/02/2023	6.84	1686	1096	3.47	17.8	-102.3	103.9	No odour, Light Olive Brown, No sheen, Low turbidity
SW062	13/07/2023	8.29	530	345	4.01	11.3	-101.2	111.5	Clear, Low Turbidity, No odour.
SW078	06/04/2020	6.74	586.0	351.6	2.09	21.0	54.5	257.5	Olive yellow, medium turbidity, organic odour
SW078	20/07/2020	7.58	394.1	236.5	5.7	13.8	147.0	357.2	Light yellow, low turbidity, slight organic odour
SW078	05/02/2021	6.68	356.20	213.7	4.01	19.41	103.60	308.19	Clear, low turbidity, no odour. Drain, flows south west.
SW078	4/08/2021	8.84	234	140.4	6.1	13.08	173.5	384.42	Clear, No odour. Approximately 3 m wide by 4 m high banks. Concrete lined, vegetation at banks. Flows south into wetland.
SW078	28/07/2022	7.35	1347	808	3.13	14.9	-125.7	83.4	Clear, No odour. Approximately 3 m wide by 4 m high banks. Concrete lined, vegetation at banks. Flows south into wetland.
SW078	2/02/2023	7.14	1575	1024	3.10	18.9	-246.5	-41.4	Septic odour, Clear, No sheen, Low turbidity
SW078	13/07/2023	7.27	1575	1024	2.37	14.3	-233.8	-24.1	Clear, Low Turbidity, No odour.

Table T4: Surface Water Historic PFAS Analytical Results

		PFAS																									
		Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR		0.01	0.02	0.02	0.1	0.01	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	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Receptors	PFAS NEMP FW 95% Species Protection	0.13				220																					
Human Health Receptors	PFAS NEMP (2020) PFAS Recreational Water	2				10																				2	

Location Code	Field ID	Date	Lab Report																									
SW003	0939_SW003_170720	20/07/2017	555730	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW003	0939_SW003_170906	6/09/2017	562532	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW003	0939_SW003_200406	6/04/2020	ES2012050	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW003	0939_SW003_200819	19/08/2020	EM2014416	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW003	0939_SW003_210205	5/02/2021	EM2101800	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW003	0939_SW003_210813	13/08/2021	EM2116269	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW003	0939_SW003_220726	26/07/2022	EM2214753	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW003	0939_SW003_230707	13/07/2023	EM2312858-AE	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW006	0939_SW006_170721	21/07/2017	555730	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
SW006	0939_SW006_170907	7/09/2017	562532	0.07	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
SW006	0939_SW006_200406	6/04/2020	ES2012050	1.64	<0.02	0.05	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	1.77	1.89
SW006	0939_SW006_200819	19/08/2020	EM2014416	0.11	<0.02	0.03	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.15	0.18
SW006	0939_SW006_210205	5/02/2021	EM2101800	0.67	<0.02	0.08	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	0.87	1
SW006	0939_SW006_210812	12/08/2021	EM2116269	0.48	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.54	0.55
SW006	0939_SW006_220725	25/07/2022	EM2214753	0.09	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.11	0.11
SW006	0939_SW006_230202	2/02/2023	EM2303626	0.17	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.2	0.21
SW006	0939_SW006_230713	13/07/2023	EM2314213	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.06	0.06
SW009	0939_SW009_170720	20/07/2017	555730	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
SW009	0939_SW009_170906	6/09/2017	562532	0.14	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.16
SW009	0939_SW009_200407	7/04/2020	ES2012050	0.09	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.13	0.14
SW009	0939_SW009_200819	19/08/2020	EM2014416	0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.04	0.04
SW009	0939_SW009_210205	5/02/2021	EM2101800	0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.02	0.02
SW009	0939_SW009_210804	4/08/2021	EM2115885	0.07	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.07	0.07
SW009	0939_SW009_220727	27/07/2022	EM2214753	0.07	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.08	0.08
SW009	0939_SW009_230202	2/02/2023	EM2303626	0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.05	0.05
SW009	0939_SW009_230713	13/07/2023	EM2314213	0.08	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.15	0.15
SW010	0939_SW010_170720	20/07/2017	555730	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
SW010	0939_SW010_170906	6/09/2017	562532	0.14	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.16
SW010	0939_SW010_180501	1/05/2018	596509	0.24	<0.01	0.2	0.09	0.08	0.05	0.01	<0.01	0.02	<0.01	0.08	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.38	0.95
SW010	0939_SW010_181024	24/10/2018	624332	0.16	<0.01	0.02	<0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	0.28
SW010	0939_SW010_200407	7/04/2020	ES2012050	0.26	<0.02	0.04	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	0.36	0.43
SW010	0939_SW010_200819	19/08/2020	EM2014416	0.15	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.15	0.15
SW010	0939_SW010_210205	5/02/2021	EM2101800	0.08	<0.02	0.03	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.11	0.15
SW010	0939_SW010_210806	6/08/2021	EM2115885	0.12	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.12	0.12
SW010	0939_SW010_220728	28/07/2022	EM2214753	0.05	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.07	0.07
SW010	0939_SW010_230202	2/02/2023	EM2303626	0.18	<0.02	0.04	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	0.26	0.32
SW010	0939_SW010_230713	13/07/2023	EM2314213	0.07	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.13	0.13
SW011	0939_SW011_170216	16/02/2017	NK	0.19	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-
SW011	0939_SW011_170720	20/07/2017	555730	0.17	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	0.19
SW011	0939_SW011_170906	6/09/2017	562532	0.18	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.21
SW011	0939_SW011_200406	6/04/2020	ES2012050	0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.02	0.02
SW011	0939_SW011_210205	5/02/2021	EM2101800	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.01	<0.01
SW011	0939_SW011_210804	4/08/2021	EM2115885	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.06	0.06
SW011	0939_SW011_220728	28/07/2022	EM2214753	0.27	<0.02	0.03	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	0.70	0.88
SW011	0939_SW011_230713	13/07/2023	EM2314213	0.14	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.21	0.21
SW012	0939_SW012_170720	20/07/2017	555730	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	0.1
SW012	0939_SW012_170906	6/09/2017	562532	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW012	0939_SW012_200406	6/04/2020	ES2012050	0.07	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.10	0.1
SW012	0939_SW012_200819	19/08/2020	EM2014416	0.11	<0.02	0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.15	0.17
SW012	0939_SW012_210205	5/02/2021	EM2101800	0.11	<0.02	0.03	<0.1	0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	0.17	0.25
SW012	0939_SW012_210806	6/08/2021	EM2115885	0.03	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	0.03	0.03

Table T4: Surface Water Historic PFAS Analytical Results

					PFAS																								
					Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.02	0.02	0.1	0.01	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	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Receptors	PFAS NEMP FW 95% Species Protection				0.13				220																					
Human Health Receptors	PFAS NEMP (2020) PFAS Recreational Water				2				10																				2	
Location Code	**Field ID**	**Date**	**Lab Report**																											
SW012	0939_SW012_220727	27/07/2022	EM2214753		0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05
SW012	0939_SW012_230202	2/02/2023	EM2303626		0.26	<0.02	0.06	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.47	0.57
SW012	0939_SW012_230713	13/07/2023	EM2314213		0.1	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.19
SW017	0939_SW017_170720	20/07/2017	555730		0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW017	0939_SW017_170906	6/09/2017	562532		0.02	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW017	0939_SW017_200406	6/04/2020	ES2012050		0.11	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	0.18
SW017	0939_SW017_200819	19/08/2020	EM2014416		0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.04	0.04
SW017	0939_SW017_210205	5/02/2021	EM2101800		0.2	<0.02	0.05	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.30	0.37
SW017	0939_SW017_210813	13/08/2021	EM2116269		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW017	0939_SW017_220726	26/07/2022	EM2214753		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW017	0939_SW017_230202	2/02/2023	EM2303626		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW017	0939_SW017_ 230707	7/07/2023	EM2312858-AE		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW018	0939_SW018_170720	20/07/2017	555730		0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW018	0939_SW018_170906	6/09/2017	562532		0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW018	0939_SW018_200819	19/08/2020	EM2014416		0.27	<0.02	0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.33	0.35
SW018	0939_SW018_210205	5/02/2021	EM2101800		0.7	<0.02	0.06	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.97	1.15
SW018	0939_SW018_210804	4/08/2021	EM2115885		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW018	0939_SW018_220726	26/07/2022	EM2214753		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW018	0939_SW018_230202	2/02/2023	EM2303626		0.08	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08
SW018	0939_SW018_ 230707	7/07/2023	EM2312858-AE		0.05	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05
SW019	0939_SW019_170720	20/07/2017	555730		120	<0.01	8.4	1.3	3.3	1.1	<0.01	0.17	0.08	<0.01	2.5	<0.01	<0.01	<0.01	1.2	0.13	<0.01	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	148	174.68
SW019	0939_SW019_170906	6/09/2017	562532		11	<0.01	1.2	0.21	0.82	0.27	0.02	<0.01	0.04	<0.01	0.47	<0.01	0.01	<0.01	0.22	0.09	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15	19.59
SW019	0939_SW019_200407	7/04/2020	ES2012050		4.04	<0.02	0.87	0.3	0.31	0.19	0.05	<0.02	0.08	<0.05	0.44	<0.02	<0.02	<0.05	0.16	0.14	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5.74	9.07
SW019	0939_SW019_200819	19/08/2020	EM2014416		1.53	<0.02	0.1	<0.1	0.06	0.03	0.02	<0.02	0.02	<0.05	0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	1.78	2.15
SW019	0939_SW019_210205	5/02/2021	EM2101800		0.94	<0.02	0.2	<0.1	0.08	0.04	0.02	<0.02	0.02	<0.05	0.08	<0.02	<0.02	<0.05	0.12	0.1	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.44	2.36
SW019	0939_SW019_210804	4/08/2021	EM2115885		0.36	<0.02	0.05	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.56
SW019	0939_SW019_220726	26/07/2022	EM2214753		1.45	<0.02	0.12	<0.1	0.07	0.04	<0.02	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.97	2.45
SW021	0939_SW021_170721	21/07/2017	555730		0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW021	0939_SW021_170907	7/09/2017	562532		0.02	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW021	0939_SW021_200406	6/04/2020	ES2012050		0.03	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.04
SW021	0939_SW021_200819	19/08/2020	EM2014416		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.02	0.02
SW021	0939_SW021_210205	5/02/2021	EM2101800		0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW021	0939_SW021_210804	4/08/2021	EM2115885		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW021	0939_SW021_220726	26/07/2022	EM2214753		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW021	0939_SW021_230202	2/02/2023	EM2303626		0.02	<0.02	0.03	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.06
SW028	0939_SW028_170721	21/07/2017	555730		0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW028	0939_SW028_170906	6/09/2017	562532		<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW028	0939_SW028_200406	6/04/2020	ES2012050		<0.01	<0.02	<0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.01
SW028	0939_SW028_200819	19/08/2020	EM2014416		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW028	0939_SW028_210205	5/02/2021	EM2101800		0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01
SW028	0939_SW028_210804	4/08/2021	EM2115885		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_220727	27/07/2022	EM2214753		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_230202	2/02/2023	EM2303626		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_230707	7/07/2023	EM2314213		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_170721	21/07/2017	555730		0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW029	0939_SW029_170906	6/09/2017	562532		<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW029	0939_SW029_200406	6/04/2020	ES2012050		0.08	<0.02	0.02	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	0.25
SW029	0939_SW029_200819	19/08/2020	EM2014416		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW029	0939_SW029_210205	5/02/2021	EM2101800		0.02	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW029	0939_SW029_210804	4/08/2021	EM2115885		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_220727	27/07/2022	EM2214753		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_230202	2/02/2023	EM2303626		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_230707	13/07/2023	EM2314213		<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_170906	6/09/2017	562532		<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1

Table T4: Surface Water Historic PFAS Analytical Results

		PFAS																									
		Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR		0.01	0.02	0.02	0.1	0.01	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	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Receptors	PFAS NEMP FW 95% Species Protection	0.13				220																					
Human Health Receptors	PFAS NEMP (2020) PFAS Recreational Water	2				10																				2	
Location Code	**Field ID**	**Date**	**Lab Report**																								
SW032	0939_SW032_200406	6/04/2020	ES2012050	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_200819	19/08/2020	EM2014416	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW032	0939_SW032_210205	5/02/2021	EM2101800	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_210804	4/08/2021	EM2115885	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_220728	28/07/2022	EM2214753	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_230202	2/02/2023	EM2303626	0.03	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03
SW032	0939_SW032_230713	13/07/2023	EM2314213	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW033	0939_SW033_170906	6/09/2017	562532	0.02	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW033	0939_SW033_200819	19/08/2020	EM2014416	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW033	0939_SW033_210205	5/02/2021	EM2101800	<0.01^	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW033	0939_SW033_210804	4/08/2021	EM2115885	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW033	0939_SW033_220728	28/07/2022	EM2214753	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW037	0939_SW037_170720	20/07/2017	555730	0.06	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
SW037	0939_SW037_170906	6/09/2017	562532	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.13
SW037	0939_SW037_200819	13/08/2020	EM2014416	0.03	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.03	0.03
SW037	0939_SW037_230707	7/07/2023	EM2312858-AE	0.07	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.09
SW050	0939_SW050_170721	21/07/2017	555730	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW050	0939_SW050_170906	6/09/2017	562532	0.19	<0.01	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.22
SW050	0939_SW050_200819	19/08/2020	EM2014416	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW050	0939_SW050_210205	5/02/2021	EM2101800	<0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW050	0939_SW050_210813	13/08/2021	EM2116269	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW050	0939_SW050_220726	26/07/2022	EM2214753	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW050	0939_SW050_230202	2/02/2023	EM2303626	0.19	<0.02	0.03	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.31	0.36
SW050	0939_SW050_230711	11/07/2023	EM2314213	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08
SW054	0939_SW054_170721	21/07/2017	555730	0.22	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	0.24
SW054	0939_SW054_170907	7/09/2017	562532	0.16	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.18
SW054	0939_SW054_200406	6/04/2020	ES2012050	0.08	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12
SW054	0939_SW054_200819	19/08/2020	EM2014416	0.01	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.01	0.01
SW054	0939_SW054_210205	5/02/2021	EM2101800	<0.01^	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW054	0939_SW054_210813	13/08/2021	EM2116269	0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW054	0939_SW054_220726	26/07/2022	EM2214753	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07
SW054	0939_SW054_230202	2/02/2023	EM2303626	0.16	<0.02	0.04	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.29	0.37
SW054	0939_SW054_230711	11/07/2023	EM2314213	0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW058	0939_SW058_170720	20/07/2017	555730	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW058	0939_SW058_170906	6/09/2017	562532	0.19	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.21
SW058	0939_SW058_180501	1/05/2018	596509	0.26	<0.01	0.2	0.09	0.08	0.05	0.01	<0.01	0.02	<0.01	0.08	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.98
SW058	0939_SW058_181024	24/10/2018	624332	0.2	<0.01	0.02	<0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	0.34
SW058	0939_SW058_200407	7/04/2020	ES2012050	0.23	<0.02	0.04	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.34	0.41
SW058	0939_SW058_2000819	19/08/2020	EM2014416	0.15	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.15	0.15
SW058	0939_SW058_210205	5/02/2021	EM2101800	0.09	<0.02	0.03	<0.1	0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.16
SW058	0939_SW058_210806	6/08/2021	EM2115885	0.04	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW058	0939_SW058_220728	28/07/2022	EM2214753	0.06	<0.02	<0.02	<0.1	<0.01	<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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08
SW058	0939_SW058_230202	2/02/2023	EM2303626	0.16	<0.02	0.04	<0.1	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.24	0.3

Appendix E

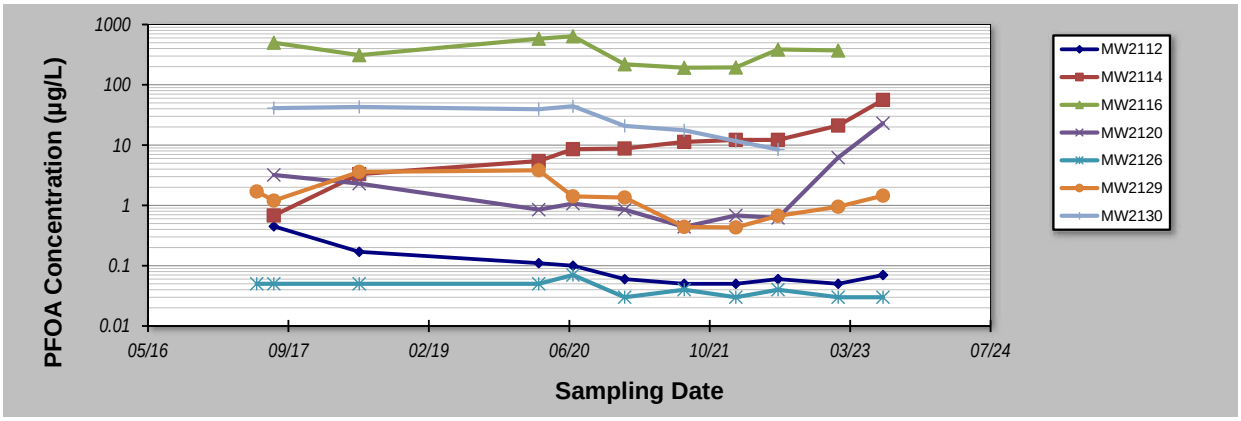
Mann Kendall Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2112	MW2114	MW2116	MW2120	MW2126	MW2129	MW2130
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17					0.05	1.7	
2	Aug-17	0.45	0.68	500	3.2	0.05	1.2	41
3	Jun-18	0.17	3.3	310	2.3	0.05	3.6	43
4	Mar-20	0.11	5.44	582	0.85	0.05	3.82	39.3
5	Jul-20	0.1	8.56	638	1.07	0.07	1.41	44.1
6	Jan-21	0.06	8.78	219	0.85	0.03	1.35	20.8
7	Aug-21	0.05	11.3	192	0.44	0.04	0.44	17.6
8	Feb-22	0.05	12.2	194	0.68	0.03	0.43	11.7
9	Jul-22	0.06	12.2	385	0.62	0.04	0.67	8.45
10	Jan-23	0.05	21.1	371	6.21	0.03	0.95	9.32
11	Jul-23	0.07	56.1		23	0.03	1.45	5.99
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**1.05**	**1.13**	**0.44**	**1.77**	**0.30**	**0.74**	**0.53**
Mann-Kendall Statistic (S):		**-27**	**44**	**-8**	**-4**	**-28**	**-17**	**-5**
Confidence Factor:		**99.2%**	**>99.9%**	**76.2%**	**60.3%**	**98.4%**	**89.1%**	**68.3%**
Concentration Trend:		Decreasing	Increasing	Stable	No Trend	Decreasing	Stable	Stable



Notes:

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

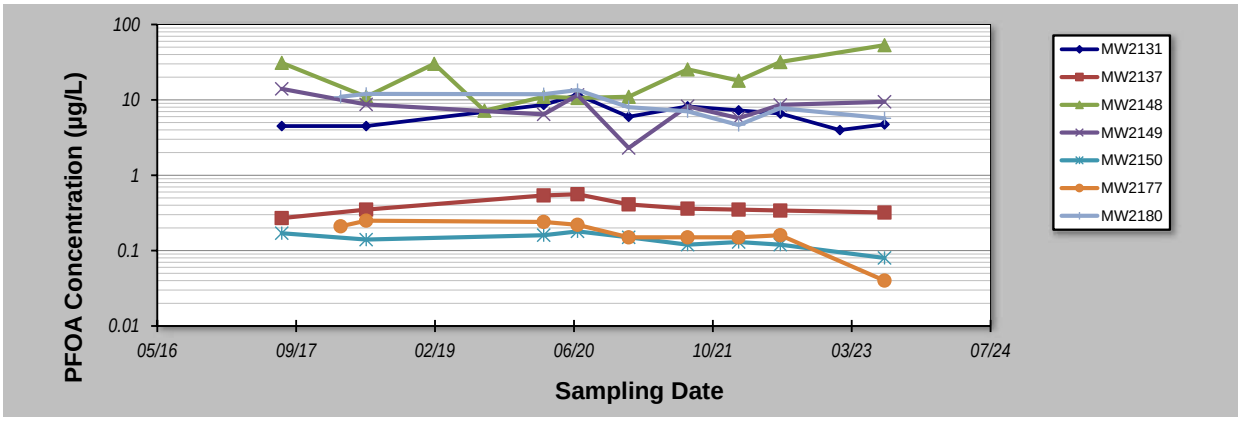
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2131	MW2137	MW2148	MW2149	MW2150	MW2177	MW2180
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17	4.5	0.27	31	14	0.17		
2	Mar-18						0.21	11
3	Jun-18	4.5	0.35	11	8.7	0.14	0.25	12
4	Feb-19			30.1				
5	Aug-19			7.18				
6	Nov-19							
7	Feb-20							
8	Mar-20	8.6	0.54	11	6.42	0.16	0.24	11.9
9	Jul-20	11.7	0.56	10.6	11.6	0.18	0.22	13.5
10	Jan-21	5.97	0.41	11	2.3	0.15	0.15	8.01
11	Aug-21	8.21	0.36	25.4	8.23	0.12	0.15	7.05
12	Feb-22	7.26	0.35	18	5.73	0.13	0.15	4.64
13	Jul-22	6.59	0.34	31.8	8.58	0.12	0.16	7.77
14	Jan-23	3.98	0.34	43.3	9.21	0.11	0.11	5.24
15	Jul-23	4.73	0.32	53.3	9.43	0.08	0.04	5.7
16								
17								
18								
19								
20								
Coefficient of Variation:		0.37	0.25	0.64	0.40	0.22	0.37	0.34
Mann-Kendall Statistic (S):		-6	-2	25	1	-16	-14	-13
Confidence Factor:		66.8%	54.0%	97.0%	50.0%	94.0%	91.0%	89.0%
Concentration Trend:		Stable	Stable	Increasing	No Trend	Prob. Decreasing	Prob. Decreasing	Stable



Notes:

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

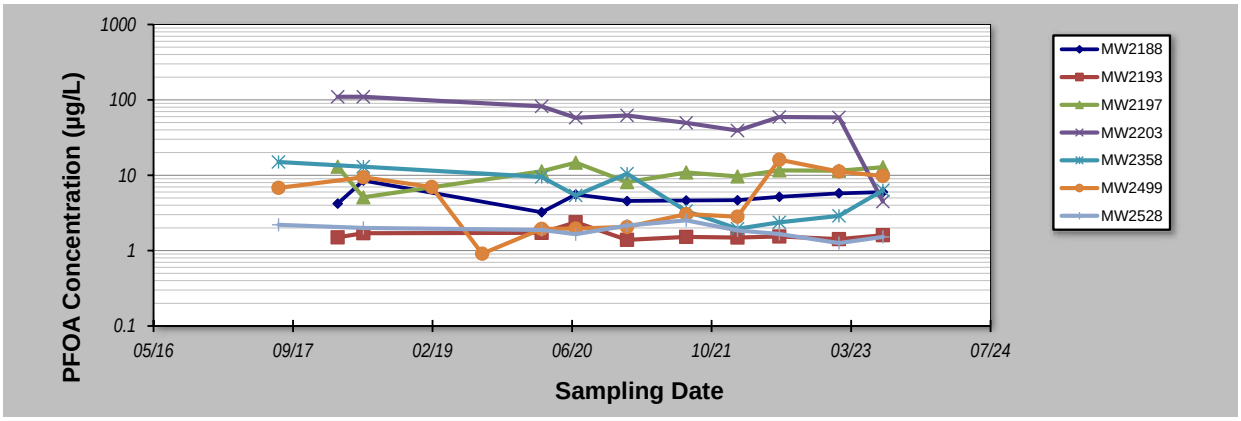
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for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2188	MW2193	MW2197	MW2203	MW2358	MW2499	MW2528
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17					15	6.8	2.2
2	Mar-18	4.2	1.5	13	110			
3	Jun-18	8.5	1.7	5.1	110	13	9.4	2
4	Feb-19						7	
5	Aug-19						0.91	
6	Nov-19							
7	Feb-20							
8	Mar-20	3.23	1.72	11.3	82	9.49	1.94	1.88
9	Jul-20	5.56	2.38	14.7	58	5.4	1.96	1.65
10	Jan-21	4.55	1.39	8.11	62	10.5	2.06	2.15
11	Aug-21	4.62	1.52	10.9	49.6	3.35	3.05	2.52
12	Feb-22	4.66	1.49	9.66	39.2	1.95	2.82	1.85
13	Jul-22	5.17	1.54	11.6	59.2	2.37	16.1	1.66
14	Jan-23	5.76	1.42	11.5	58.5	2.89	11.2	1.26
15	Jul-23	5.98	1.6	12.8	4.48	6.33	9.78	1.52
16								
17								
18								
19								
20								
Coefficient of Variation:		0.27	0.18	0.25	0.50	0.67	0.78	0.20
Mann-Kendall Statistic (S):		19	-5	7	-30	-25	20	-23
Confidence Factor:		94.6%	63.6%	70.0%	99.7%	98.6%	90.2%	97.7%
Concentration Trend:		Prob. Increasing	Stable	No Trend	Decreasing	Decreasing	Prob. Increasing	Decreasing



Notes:

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

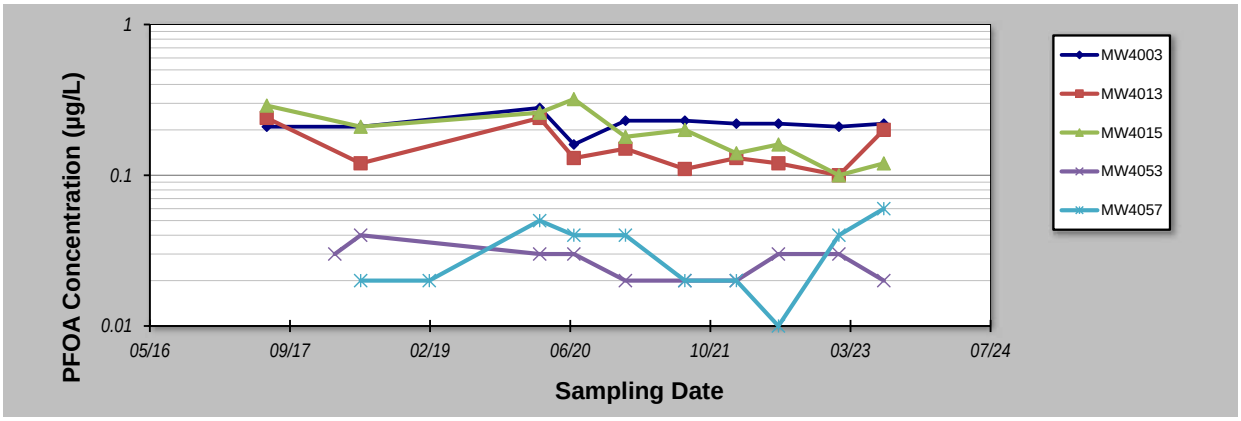
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for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW4003	MW4013	MW4015	MW4053	MW4057		
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17	0.21	0.24	0.29				
2	Mar-18				0.03			
3	Jun-18	0.21	0.12	0.21	0.04	0.02		
4	Feb-19					0.02		
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	0.28	0.24	0.26	0.03	0.05		
9	Jul-20	0.16	0.13	0.32	0.03	0.04		
10	Jan-21	0.23	0.15	0.18	0.02	0.04		
11	Aug-21	0.23	0.11	0.2	0.02	0.02		
12	Feb-22	0.22	0.13	0.14	0.02	0.02		
13	Jul-22	0.22	0.12	0.16	0.03	0.01		
14	Feb-23	0.21	0.1	0.1	0.03	0.04		
15	Jul-23	0.22	0.2	0.12	0.02	0.06		
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.13**	**0.34**	**0.37**	**0.25**	**0.51**		
Mann-Kendall Statistic (S):		**0**	**-14**	**-31**	**-15**	**4**		
Confidence Factor:		**45.6%**	**87.3%**	**99.8%**	**89.2%**	**60.3%**		
Concentration Trend:		Stable	Stable	Decreasing	Stable	No Trend		



Notes:

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

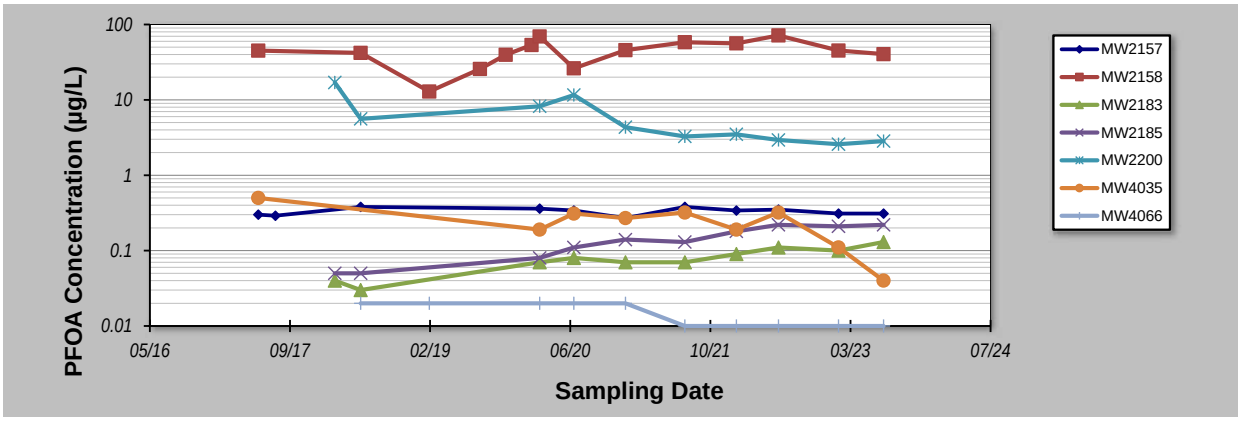
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2157	MW2158	MW2183	MW2185	MW2200	MW4035	MW4066
Sampling Event	Sampling Date	PFOA (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17	0.3	45				0.5	
2	Aug-17	0.29						
3	Mar-18			0.04	0.05	17		
4	Jun-18	0.38	42	0.03	0.05	5.6		0.02
5	Nov-18							
6	Dec-18							
7	Feb-19		12.9					0.02
8	Aug-19		25.7					
9	Nov-19		39.6					
10	Feb-20		53.4					
11	Mar-20	0.36	69.4	0.07	0.08	8.23	0.19	0.02
12	Jul-20	0.34	26.2	0.08	0.11	11.6	0.31	0.02
13	Jan-21	0.27	45.6	0.07	0.14	4.34	0.27	0.02
14	Aug-21	0.38	58.2	0.07	0.13	3.27	0.32	0.01
15	Feb-22	0.34	56.2	0.09	0.18	3.49	0.19	0.01
16	Jul-22	0.35	71.6	0.11	0.22	2.94	0.32	0.01
17	Jan-23	0.31	45.1	0.1	0.21	2.58	0.11	0.01
18	Jul-23	0.31	40.4	0.13	0.22	2.84	0.04	0.01
19								
20								
Coefficient of Variation:		**0.11**	**0.36**	**0.38**	**0.48**	**0.77**	**0.54**	**0.35**
Mann-Kendall Statistic (S):		**-2**	**27**	**34**	**39**	**-35**	**-16**	**-25**
Confidence Factor:		**53.0%**	**92.1%**	**100.0%**	**>99.9%**	**100.0%**	**94.0%**	**98.6%**
Concentration Trend:		Stable	Prob. Increasing	Increasing	Increasing	Decreasing	Prob. Decreasing	Decreasing



Notes:

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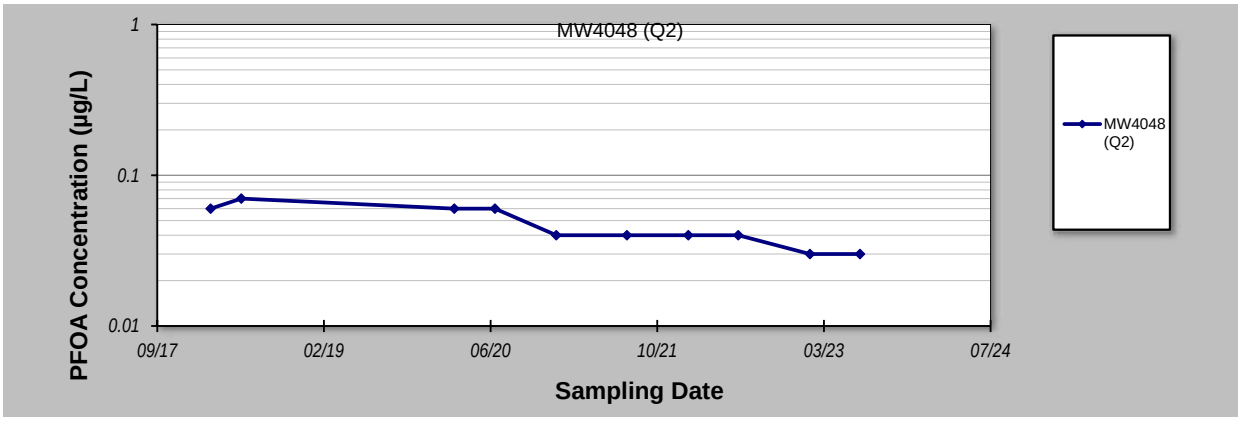
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW4048 (Q2)

Sampling Event	Sampling Date	PFOA (Q2 AQUIFER) CONCENTRATION (µg/L)
1	Mar-18	0.06
2	Jun-18	0.07
3	Mar-20	0.06
4	Jul-20	0.06
5	Jan-21	0.04
6	Aug-21	0.04
7	Feb-22	0.04
8	Jul-22	0.04
9	Feb-23	0.03
10	Jul-23	0.03
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		**0.30**
Mann-Kendall Statistic (S):		**-33**
Confidence Factor:		**99.9%**
Concentration Trend:		Decreasing



Notes:

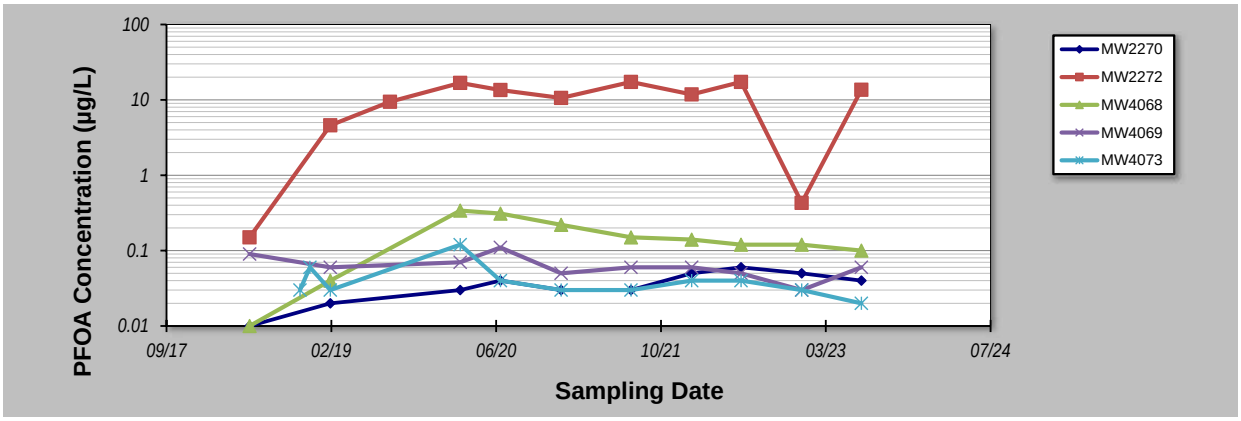
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**
Job ID: **60612561**
Constituent: **PFOA (Q3 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2270	MW2272	MW4068	MW4069	MW4073		
Sampling Event	Sampling Date	PFOA (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Mar-18							
2	Jun-18	0.01	0.15	0.01	0.09			
3	Nov-18					0.03		
4	Dec-18					0.06		
5	Feb-19	0.02	4.6	0.04	0.06	0.03		
6	Aug-19		9.44					
7	Nov-19							
8	Feb-20							
9	Mar-20	0.03	16.8	0.34	0.07	0.12		
10	Jul-20	0.04	13.5	0.31	0.11	0.04		
11	Jan-21	0.03	10.6	0.22	0.05	0.03		
12	Aug-21	0.03	17.3	0.15	0.06	0.03		
13	Feb-22	0.05	11.8	0.14	0.06	0.04		
14	Jul-22	0.06	17.3	0.12	0.05	0.04		
15	Jan-23	0.05	0.43	0.12	0.03	0.03		
16	Jul-23	0.04	13.6	0.1	0.06	0.02		
17								
18								
19								
20								
Coefficient of Variation:		**0.42**	**0.60**	**0.69**	**0.35**	**0.65**		
Mann-Kendall Statistic (S):		**28**	**20**	**-10**	**-20**	**-14**		
Confidence Factor:		**99.4%**	**92.9%**	**78.4%**	**95.5%**	**84.0%**		
Concentration Trend:		Increasing	Prob. Increasing	Stable	Decreasing	Stable		



Notes:

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

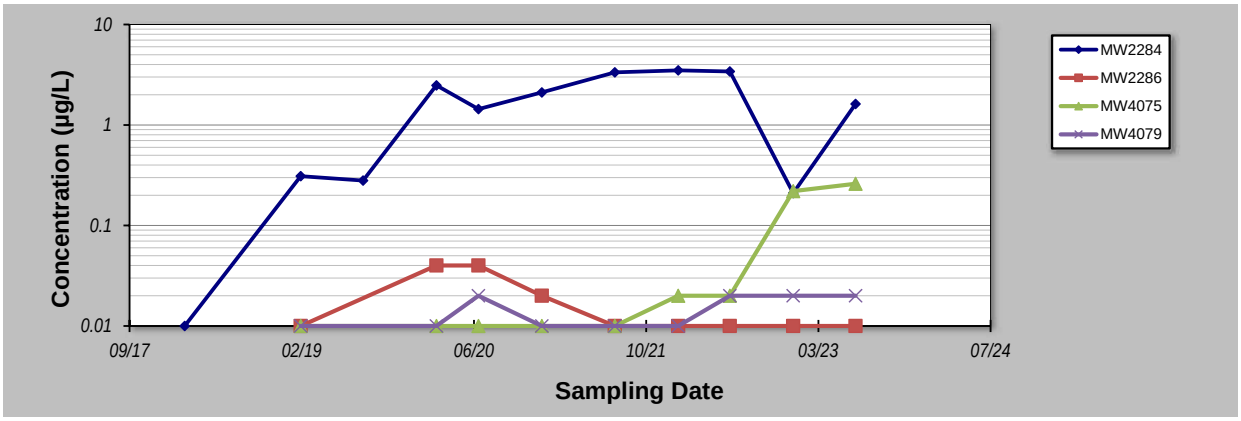
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **28-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFOA (Q4 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2284	MW2286	MW4075	MW4079			
Sampling Event	Sampling Date	PFOA (Q4 AQUIFER) CONCENTRATION (µg/L)						
1	Mar-18	0.01						
2	Jun-18							
3	Nov-18							
4	Dec-18							
5	Feb-19	0.31	0.01	0.01	0.01			
6	Aug-19	0.28						
7	Nov-19							
8	Feb-20							
9	Mar-20	2.48	0.04	0.01	0.01			
10	Jul-20	1.44	0.04	0.01	0.02			
11	Jan-21	2.11	0.02	0.01	0.01			
12	Aug-21	3.34	0.01	0.01	0.01			
13	Feb-22	3.5	0.01	0.02	0.01			
14	Jul-22	3.41	0.01	0.02	0.02			
15	Jan-23	0.21	0.01	0.22	0.02			
16	Jul-23	1.62	0.01	0.26	0.02			
17								
18								
19								
20								
Coefficient of Variation:		**0.80**	**0.73**	**1.59**	**0.36**			
Mann-Kendall Statistic (S):		**21**	**-14**	**25**	**14**			
Confidence Factor:		**94.0%**	**91.0%**	**99.6%**	**91.0%**			
Concentration Trend:		Prob. Increasing	Prob. Decreasing	Increasing	Prob. Increasing			



Notes:

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

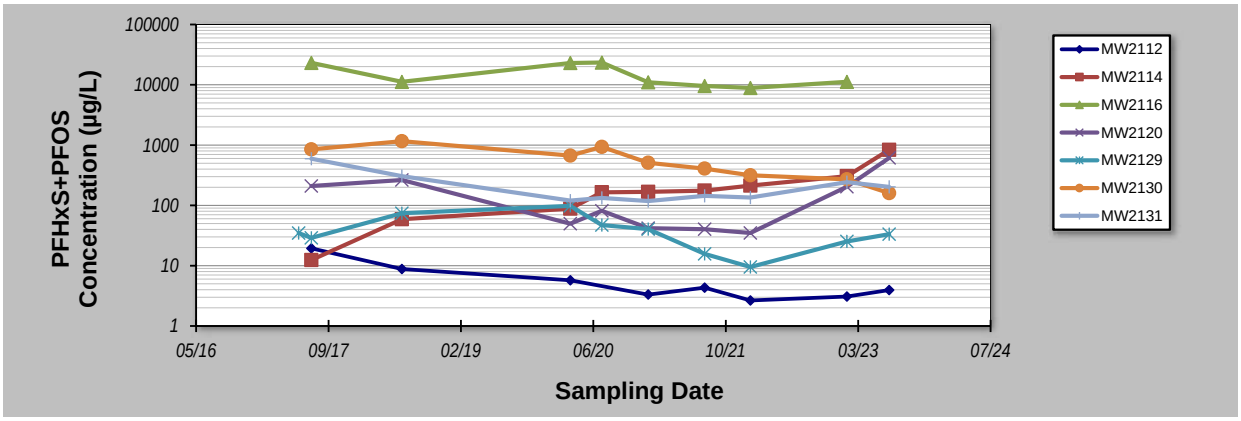
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2112	MW2114	MW2116	MW2120	MW2129	MW2130	MW2131
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17					34.73		
2	Jul-17	19.4	12.4	23100	210	28.93	850	594
3	Jun-18	8.8	59	11200	264	74	1160	306
4	Mar-20	5.72	88.2	23000	49.7	98.3	670	120
5	Jul-20	6.90	165	23400	81.3	47.2	935	133
6	Jan-21	3.32	168	11000	41.9	40.4	510	118
7	Aug-21	4.32	176	9,560	40.2	15.7	408	144
8	Feb-22	2.65	213	8,860	34.9	9.51	316	135
9	Jul-22	3.29	213	13600	51.4	19.3	276	217
10	Jan-23	3.08	306	11,200	204	25.2	271	243
11	Jul-23	3.94	834		613	33.3	160	203
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.88	1.09	0.44	1.10	0.69	0.58	0.69
Mann-Kendall Statistic (S):		-17	41	-7	-1	-9	-25	3
Confidence Factor:		97.7%	100.0%	76.4%	50.0%	79.2%	99.6%	58.0%
Concentration Trend:		Decreasing	Increasing	Stable	No Trend	Stable	Decreasing	No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
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3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

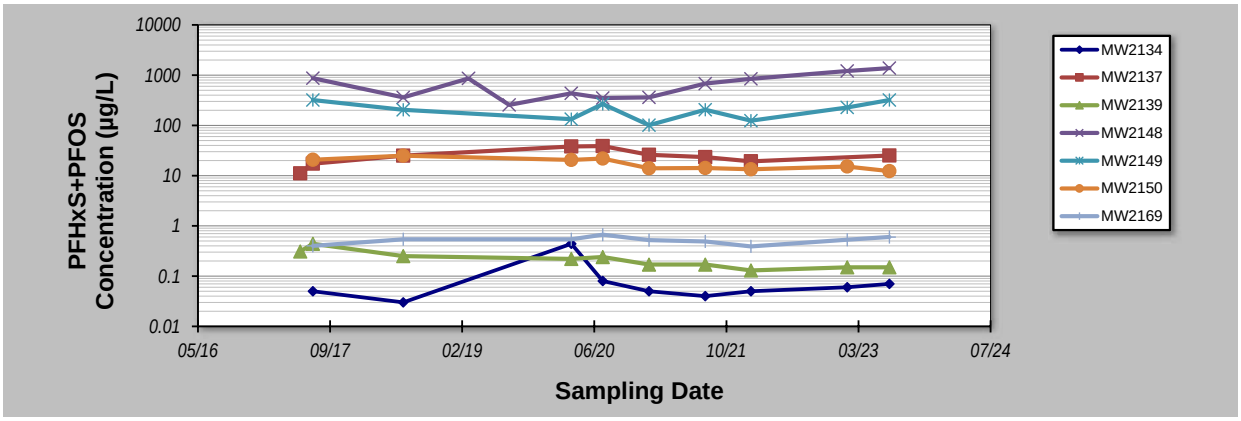
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2134	MW2137	MW2139	MW2148	MW2149	MW2150	MW2169
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17		11.1	0.31				
2	Jul-17	0.05	17.3	0.44	870	320	20.7	0.4
3	Jun-18	0.03	25	0.25	360	204	25	0.54
4	Feb-19				860			
5	Aug-19				256			
6	Mar-20	0.44	38.1	0.22	435	133	20.6	0.54
7	Jul-20	0.08	38.8	0.24	350	267	21.9	0.67
8	Jan-21	0.05	26	0.17	361	101	14	0.52
9	Aug-21	0.04	23.4	0.17	679	205	14.2	0.49
10	Feb-22	0.05	19.3	0.13	845	124	13.4	0.39
11	Jul-22	0.06	22.7	0.16	956	216	14.9	0.50
12	Jan-23	0.06	22.6	0.15	1210	227	15.2	0.53
13	Jul-23	0.07	25.2	0.15	1380	320	12.3	0.6
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.34	0.36	0.42	0.54	0.39	0.26	0.17
Mann-Kendall Statistic (S):		10	21	-29	26	6	-17	6
Confidence Factor:		82.1%	98.3%	99.5%	97.5%	69.4%	95.1%	69.4%
Concentration Trend:		No Trend	Increasing	Decreasing	Increasing	No Trend	Decreasing	No Trend



Notes:

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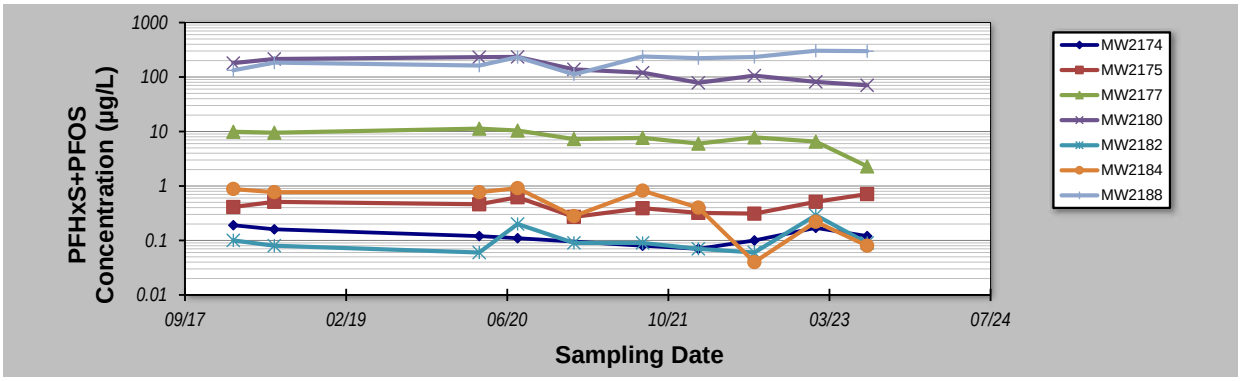
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW2174 MW2175 MW2177 MW2180 MW2182 MW2184 MW2188

Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Feb-18	0.19	0.41	9.9	180	0.1	0.88	133
2	Jun-18	0.16	0.51	9.5	214	0.08	0.77	184
3	Mar-20	0.12	0.46	11.3	231	0.06	0.77	162
4	Jul-20	0.11	0.62	10.4	234	0.2	0.91	231
5	Jan-21	0.13	0.27	7.26	138	0.09	0.28	112
6	Aug-21	0.08	0.39	7.64	120	0.09	0.82	238
7	Feb-22	0.07	0.32	5.99	78.3	0.07	0.4	221
8	Jul-22	0.1	0.31	7.81	106	0.06	0.04	233
9	Jan-23	0.17	0.51	6.52	81.4	0.29	0.22	304
10	Jul-23	0.12	0.71	2.29	70.3	0.09	0.08	298
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.33	0.31	0.33	0.44	0.65	0.67	0.30
Mann-Kendall Statistic (S):		-12	2	-27	-29	-1	-26	27
Confidence Factor:		87.0%	53.5%	99.2%	99.5%	50.0%	98.9%	99.2%
Concentration Trend:		Stable	No Trend	Decreasing	Decreasing	Stable	Decreasing	Increasing



Notes:

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

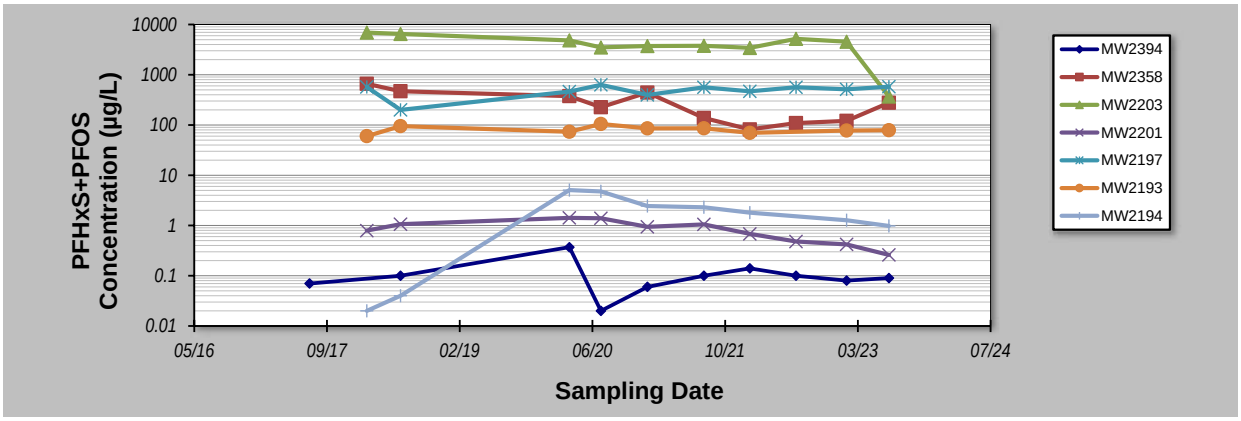
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2193	MW2194	MW2197	MW2201	MW2203	MW2358	MW2394
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17							0.07
2	Feb-18	60	0.02	570	0.79	6900	660	
3	Jun-18	95	0.04	200	1.06	6500	470	0.1
4	Mar-20	73.5	5.07	463	1.42	4840	376	0.37
5	Jul-20	105	4.77	630	1.39	3500	226	0.02
6	Jan-21	85.7	2.44	397	0.94	3730	442	0.06
7	Aug-21	85.9	2.3	562	1.05	3770	138	0.1
8	Feb-22	69.8	1.8	467	0.68	3420	81.6	0.14
9	Jul-22	87.9	1.38	563	0.48	5200	109	0.1
10	Jan-23	77.7	1.27	513	0.42	4550	121	0.08
11	Jul-23	78.8	0.98	579	0.26	369	277	0.09
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.17**	**0.88**	**0.25**	**0.47**	**0.43**	**0.66**	**0.85**
Mann-Kendall Statistic (S):		**5**	**-1**	**11**	**-29**	**-21**	**-25**	**-3**
Confidence Factor:		**65.7%**	**50.0%**	**81.0%**	**99.5%**	**96.4%**	**98.6%**	**58.0%**
Concentration Trend:		No Trend	Stable	No Trend	Decreasing	Decreasing	Decreasing	Stable



Notes:

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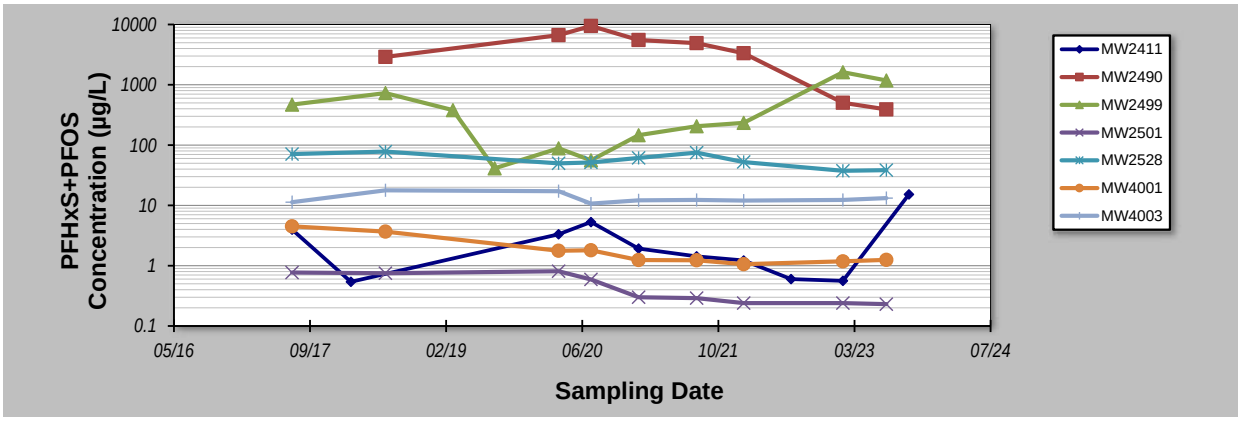
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 27-Nov-23
Facility Name: RAAF Base Edinburgh
Conducted By: Nick Wheeler

Job ID: 60612561
Constituent: PFHxS+PFOS (Q1 Aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2411	MW2490	MW2499	MW2501	MW2528	MW4001	MW4003
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17	3.97		469	0.77	71	4.5	11.3
2	Feb-18	0.54						
3	Jun-18		2900	729	0.75	78	3.67	17.8
4	Mar-19			380				
5	Aug-19			41.2				
6	Mar-20	3.32	6670	88.6	0.81	49.8	1.77	17.2
7	Jul-20	5.29	9460	56	0.59	51.5	1.8	10.7
8	Jan-21	1.92	5540	146	0.3	61.4	1.24	12.1
9	Aug-21	1.43	4910	206	0.29	75	1.23	12.3
10	Feb-22	1.22	3340	234	0.24	52.4	1.06	12
11	Jul-22	0.6	3240	2680	0.21	47.7	1.15	12.5
12	Jan-23	0.56	503	1620	0.24	37.5	1.18	12.3
13	Jul-23		391	1180	0.23	38.4	1.25	13.2
14	Oct-23	15.2						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.31	0.73	1.10	0.55	0.26	0.63	0.19
Mann-Kendall Statistic (S):		-9	-12	18	-26	-9	-19	8
Confidence Factor:		75.8%	91.1%	90.5%	99.7%	79.2%	97.0%	76.2%
Concentration Trend:		No Trend	Prob. Decreasing	Prob. Increasing	Decreasing	Stable	Decreasing	No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
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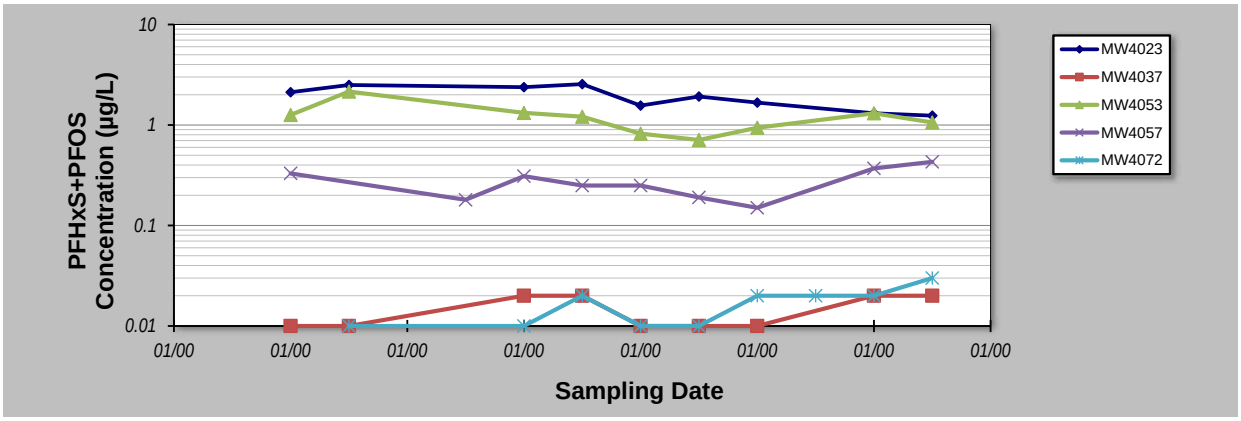
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW4013	MW4015	MW4023	MW4037	MW4053	MW4057	MW4072
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17	13.4	17.1					
2	Feb-18			2.12	0.01	1.26	0.33	
3	Aug-18	9.3	19.8	2.5	0.01	2.15		0.01
4	Mar-19							
5	Aug-19						0.18	
6	Mar-20	12.1	19.4	2.38	0.02	1.32	0.31	0.01
7	Jul-20	8.12	20.2	2.55	0.02	1.21	0.25	0.02
8	Jan-21	7.63	11.2	1.56	0.01	0.82	0.25	0.01
9	Aug-21	6.33	13.5	1.92	0.01	0.71	0.19	0.01
10	Feb-22	5.95	9.68	1.67	0.01	0.94	0.15	0.02
11	Jul-22	6.05	11.4	1.60	0.01	1.18	0.10	0.02
12	Jan-23	4.94	8.17	1.31	0.02	1.31	0.37	0.02
13	Jul-23	6.33	9.91	1.24	0.02	1.06	0.43	0.03
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.35	0.34	0.26	0.36	0.35	0.34	0.42
Mann-Kendall Statistic (S):		-24	-15	-17	13	-7	8	20
Confidence Factor:		99.4%	92.5%	95.1%	89.0%	72.8%	76.2%	97.8%
Concentration Trend:		Decreasing	Prob. Decreasing	Decreasing	No Trend	Stable	No Trend	Increasing



Notes:

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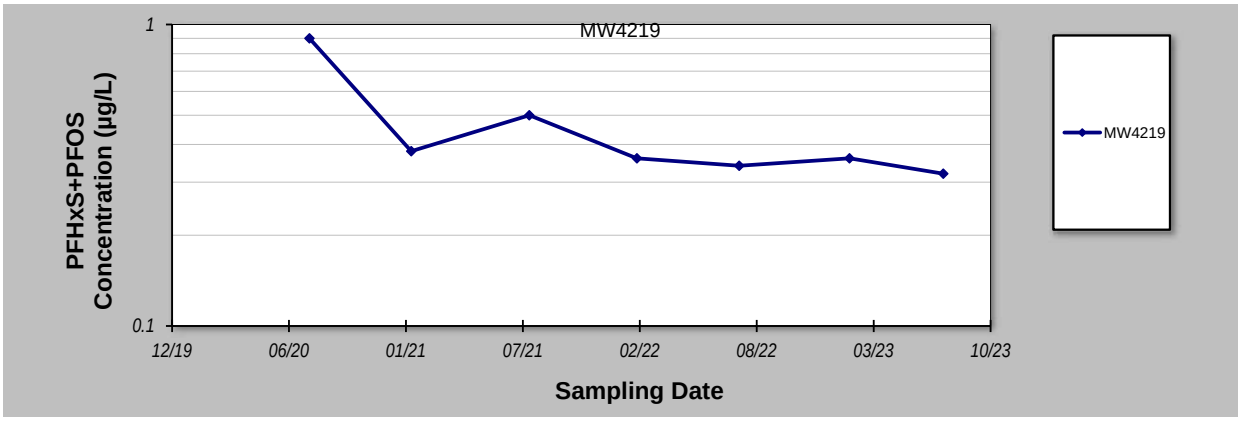
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW4219

Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-20	0.9						
2	Jan-21	0.38						
3	Aug-21	0.5						
4	Feb-22	0.36						
5	Jul-22	0.34						
6	Feb-23	0.36						
7	Jul-23	0.32						
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.46**						
Mann-Kendall Statistic (S):		**-16**						
Confidence Factor:		**99.0%**						
Concentration Trend:		Decreasing						



Notes:

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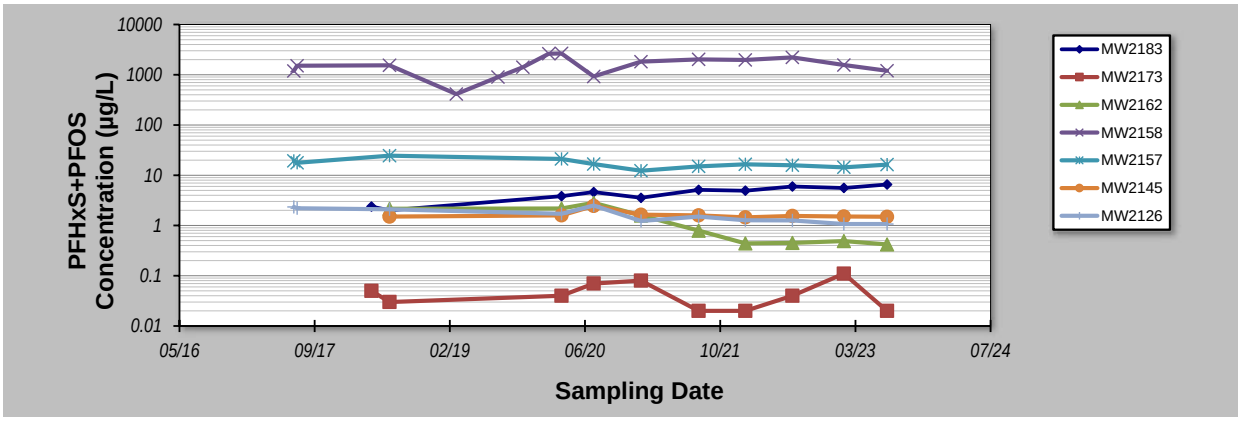
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2126	MW2145	MW2157	MW2158	MW2162	MW2173	MW2183
Sampling Event	Sampling Date	PFHXS+PFOS (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	7-Jul-17	2.34		19.3	1190			
2	19-Jul-17	2.2		17.7	1510			
3	20-Apr-18						0.05	2.38
4	26-Jun-18	2.1	1.5	24.5	1540	2.15	0.03	2
5	28-Feb-19				413			
6	1-Aug-19				898			
7	1-Nov-19				1410			
8	5-Feb-20				2620			
9	23-Mar-20	1.71	1.59	21.1	2650	2.18	0.04	3.84
10	20-Jul-20	2.5	2.45	16.7	924	2.83	0.07	4.63
11	11-Jan-21	1.23	1.64	12.3	1820	1.58	0.08	3.55
12	12-Aug-21	1.5	1.59	15	2020	0.79	0.02	5.13
13	1-Feb-22	1.27	1.45	16.5	1970	0.44	0.02	4.93
14	25-Jul-22	1.26	1.55	15.8	2210	0.45	0.04	5.98
15	31-Jan-23	1.07	1.51	14.4	1560	0.49	0.11	5.59
16	10-Jul-23	1.07	1.49	16.3	1200	0.42	0.02	6.56
17								
18								
19								
20								
Coefficient of Variation:		0.32	0.19	0.20	0.40	0.75	0.63	0.34
Mann-Kendall Statistic (S):		-40	-13	-27	27	-24	-3	35
Confidence Factor:		100.0%	89.0%	98.0%	89.9%	99.4%	56.9%	100.0%
Concentration Trend:		Decreasing	Stable	Decreasing	No Trend	Decreasing	Stable	Increasing



Notes:

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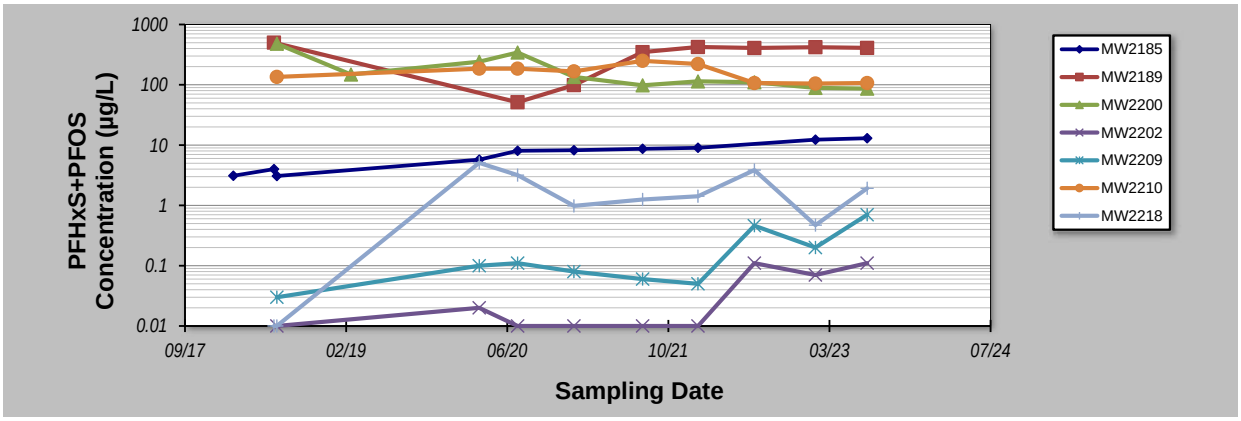
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2185	MW2189	MW2200	MW2202	MW2209	MW2210	MW2218
Sampling Event	Sampling Date	PFHXS+PFOS (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Feb-18	3.1						
2	Jun-18	4	500					0.01
3	Jul-18	3.07		480	0.01	0.03	135	0.01
4	Feb-19			148				
5	Mar-20	5.73		241	0.02	0.1	185	5.08
6	Jul-20	8.05	51.3	343	0.01	0.11	185	3.18
7	Jan-21	8.23	98.8	135	0.01	0.08	167	0.98
8	Aug-21	8.68	348	98.1	0.01	0.06	250	1.25
9	Jan-22	9.03	423	114	0.01	0.05	221	1.42
10	Jul-22	12.1	408	110	0.11	0.46	107	3.86
11	Jan-23	12.3	420	89	0.07	0.2	105	0.47
12	Jul-23	13	409	86.4	0.11	0.7	107	1.92
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.47	0.50	0.71	1.10	1.15	0.33	0.94
Mann-Kendall Statistic (S):		47	6	-35	15	16	-10	10
Confidence Factor:		100.0%	72.6%	100.0%	92.5%	94.0%	82.1%	78.4%
Concentration Trend:		Increasing	No Trend	Decreasing	Prob. Increasing	Prob. Increasing	Stable	No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
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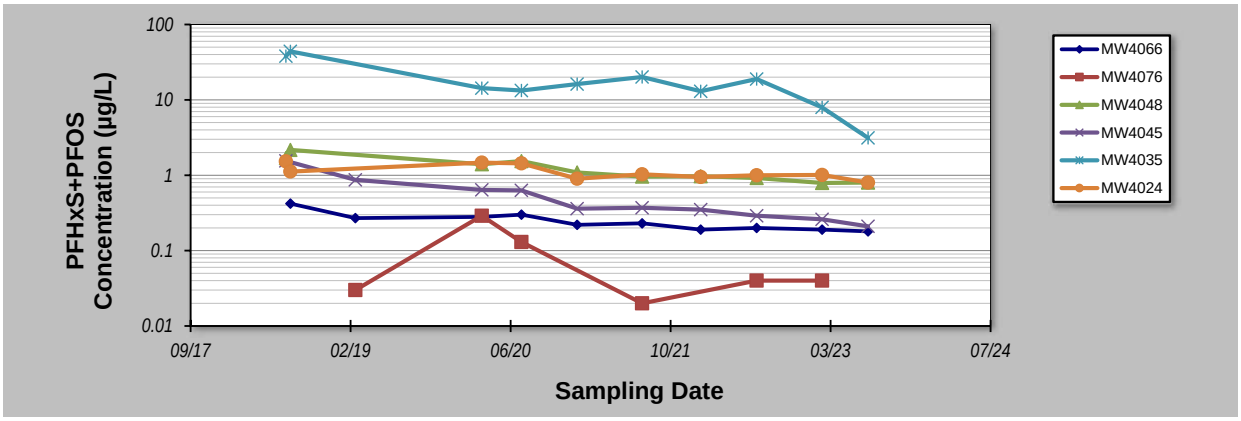
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW4024 MW4035 MW4045 MW4048 MW4066 MW4076

Sampling Event	Sampling Date	PFHXS+PFOS (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-18	1.53	38	1.55	1.69			
2	Jul-18	1.12	44		2.17	0.42		
3	Feb-19			0.87		0.27	0.03	
4	Mar-20	1.47	14.3	0.64	1.4	0.28	0.29	
5	Jul-20	1.44	13.3	0.63	1.54	0.3	0.13	
6	Jan-21	0.9	16.2	0.36	1.09	0.22		
7	Aug-21	1.03	20.1	0.37	0.96	0.23	0.02	
8	Feb-22	0.95	13	0.35	0.97	0.19		
9	Jul-22	1	18.9	0.29	0.92	0.2	0.04	
10	Feb-23	1.01	7.95	0.26	0.79	0.19	0.04	
11	Jul-23	0.8	3.13	0.21	0.8	0.18		
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.23**	**0.67**	**0.74**	**0.37**	**0.30**	**1.15**	
Mann-Kendall Statistic (S):		**-27**	**-25**	**-43**	**-37**	**-34**	**-2**	
Confidence Factor:		**99.2%**	**98.6%**	**>99.9%**	**>99.9%**	**100.0%**	**57.0%**	
Concentration Trend:		Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	No Trend	



Notes:

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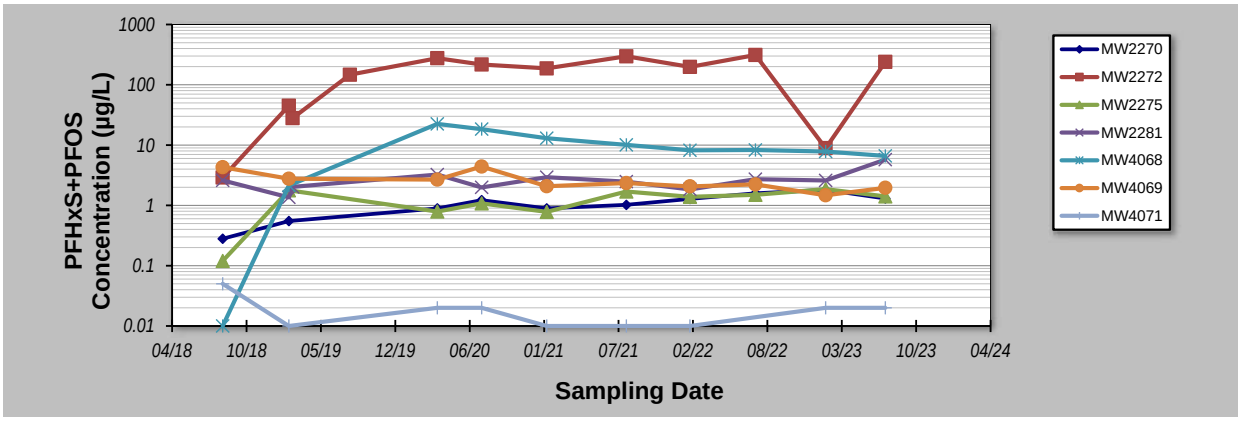
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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q3 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2270	MW2272	MW2275	MW2281	MW4068	MW4069	MW4071
Sampling Event	Sampling Date	PFHXS+PFOS (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-18	0.28	2.9	0.12	2.6	0.01	4.3	0.05
2	Feb-19	0.55	45	1.78	1.36	2.14	2.77	0.01
3	Feb-19		28		2.03			
4	Aug-19		147					
5	Mar-20	0.89	276	0.79	3.25	22.5	2.68	0.02
6	Jul-20	1.22	217	1.08	1.99	18.4	4.41	0.02
7	Jan-21	0.89	187	0.78	2.94	13	2.08	0.01
8	Aug-21	1.02	297	1.7	2.48	10.1	2.35	0.01
9	Jan-22	1.28	198	1.39	1.84	8.19	2.07	0.01
10	Jul-22	1.59	312	1.5	2.72	8.3	2.23	0.01
11	Jan-23	1.81	8.89	1.86	2.59	7.83	1.47	0.02
12	Jul-23	1.3	240	1.41	5.75	6.62	1.96	0.02
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.42	0.70	0.44	0.43	0.70	0.37	0.67
Mann-Kendall Statistic (S):		36	28	17	13	-9	-31	1
Confidence Factor:		>99.9%	96.9%	92.2%	82.1%	75.8%	99.8%	50.0%
Concentration Trend:		Increasing	Increasing	Prob. Increasing	No Trend	Stable	Decreasing	No Trend



Notes:

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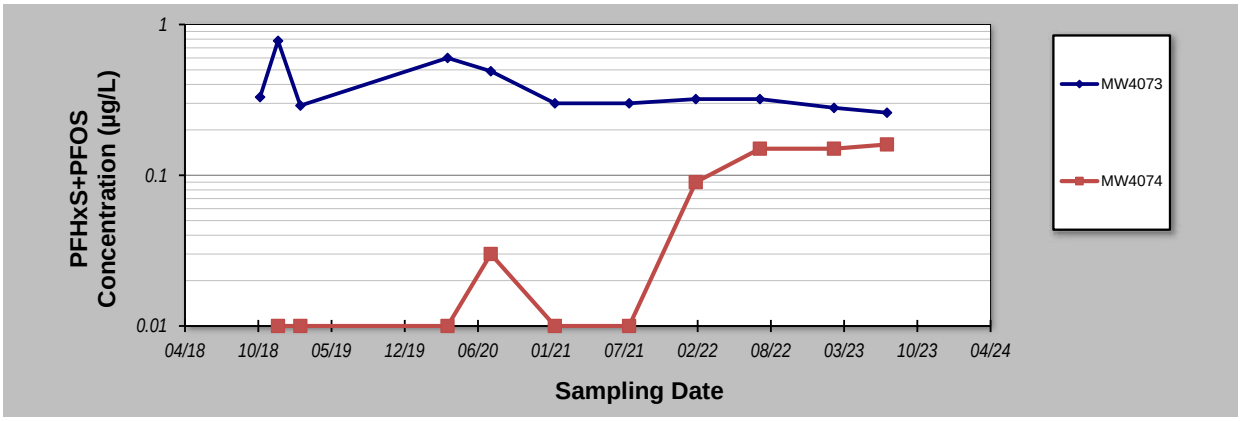
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q3 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW4073 MW4074

Sampling Event	Sampling Date	PFHXS+PFOS (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Nov-18	0.33						
2	Dec-18	0.78	0.01					
3	Feb-19	0.29	0.01					
4	Mar-20	0.6	0.01					
5	Jul-20	0.49	0.03					
6	Jan-21	0.3	0.01					
7	Aug-21	0.3	0.01					
8	Feb-22	0.32	0.09					
9	Jul-22	0.32	0.15					
10	Feb-23	0.28	0.15					
11	Jul-23	0.26	0.16					
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.43**	**1.06**					
Mann-Kendall Statistic (S):		**-27**	**30**					
Confidence Factor:		**98.0%**	**99.7%**					
Concentration Trend:		Decreasing	Increasing					



Notes:

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

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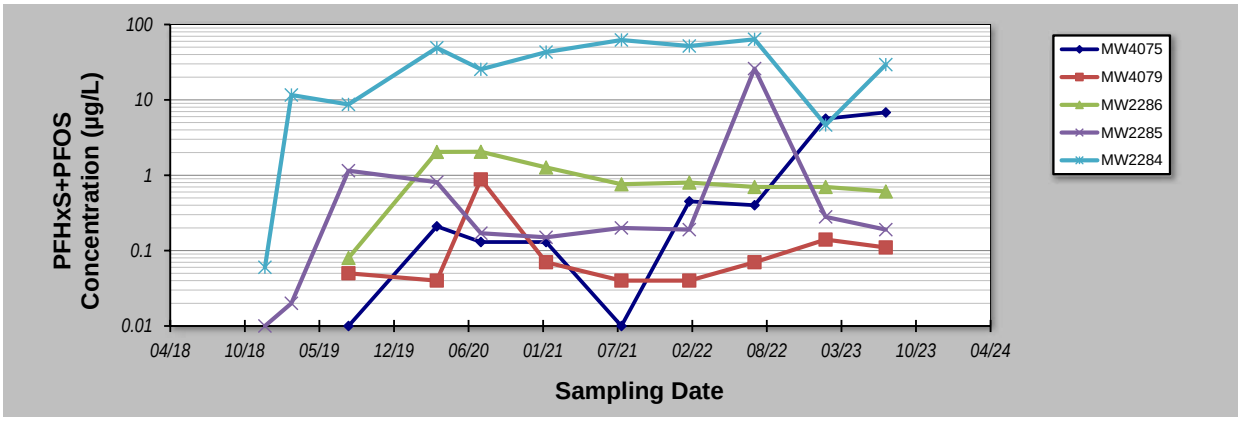
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **27-Nov-23**
Facility Name: **RAAF Base Edinburgh**
Conducted By: **Nick Wheeler**

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q4 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: MW2284 MW2285 MW2286 MW4075 MW4079

Sampling Event	Sampling Date	PFHXS+PFOS (Q4 AQUIFER) CONCENTRATION (µg/L)						
1	Dec-18	0.06	0.01					
2	Mar-19	11.6	0.02					
3	Aug-19	8.69	1.15	0.08	0.01	0.05		
4	Mar-20	49.1	0.81	2.04	0.21	0.04		
5	Jul-20	25.4	0.17	2.05	0.13	0.88		
6	Jan-21	43	0.15	1.27	0.13	0.07		
7	Aug-21	62.3	0.2	0.76	0.01	0.04		
8	Jan-22	51.8	0.19	0.8	0.45	0.04		
9	Jul-22	63.7	26	0.7	0.4	0.07		
10	Jan-23	4.64	0.28	0.7	5.63	0.14		
11	Jul-23	29.4	0.19	0.61	6.82	0.11		
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.74**	**2.92**	**0.66**	**1.75**	**1.70**		
Mann-Kendall Statistic (S):		**21**	**16**	**-15**	**22**	**8**		
Confidence Factor:		**94.0%**	**87.5%**	**92.5%**	**98.8%**	**76.2%**		
Concentration Trend:		Prob. Increasing	No Trend	Prob. Decreasing	Increasing	No Trend		



Notes:

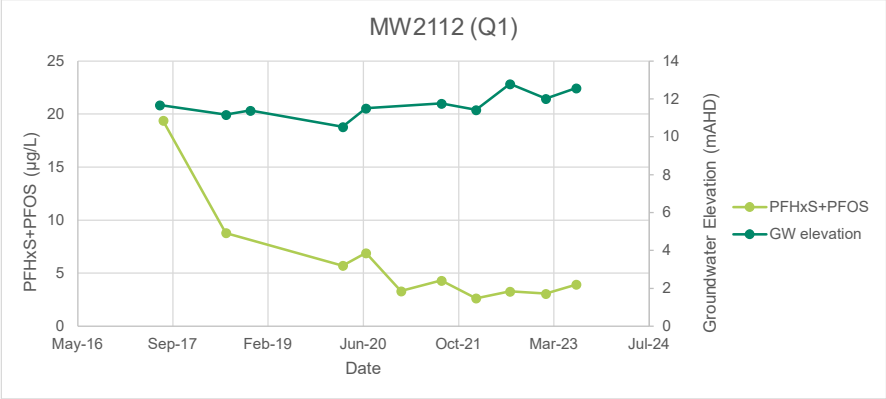
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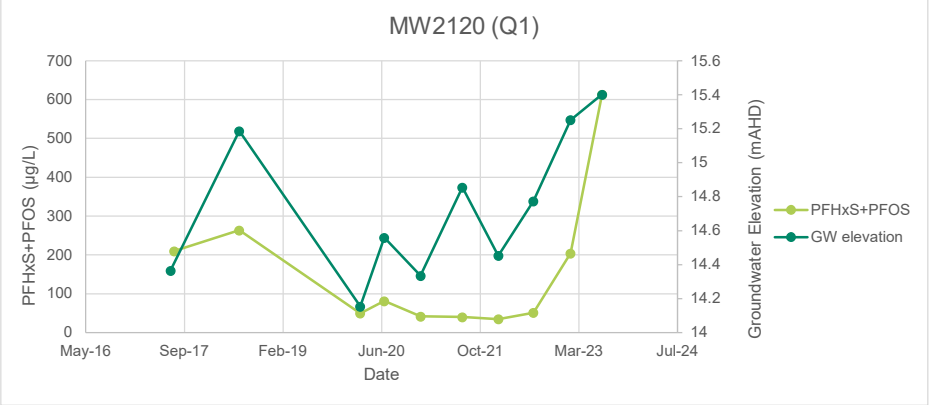
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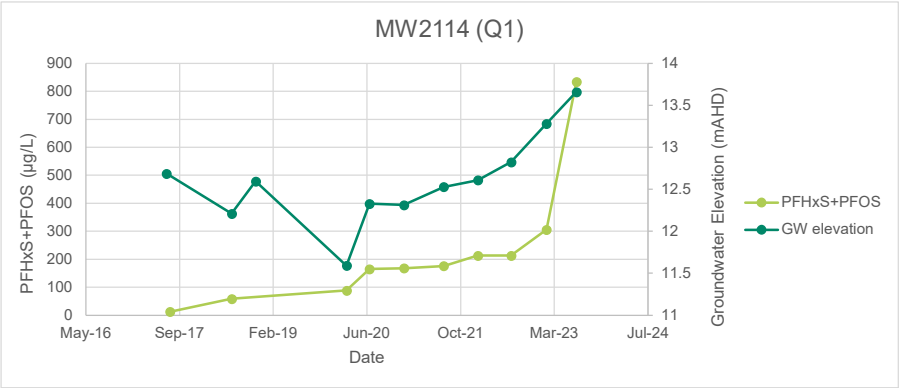
Appendix F

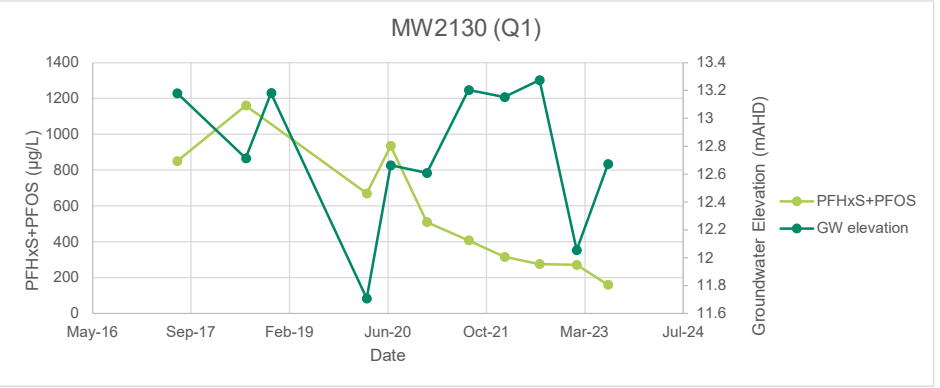
Groundwater Elevations and PFAS Concentrations

PFAS Concentrations and Groundwater Elevations

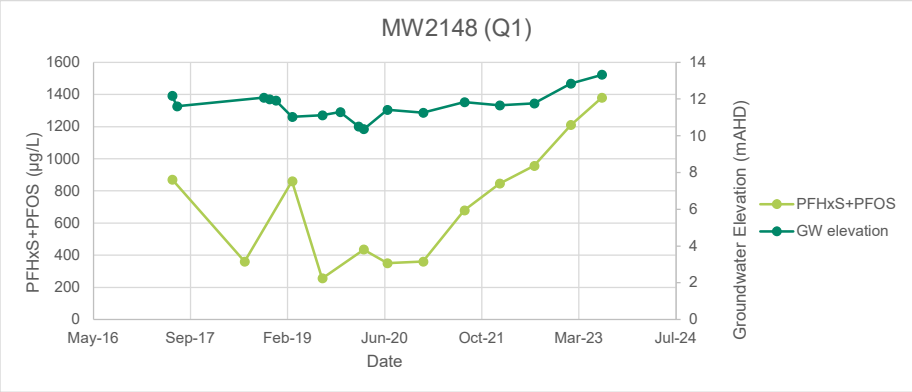


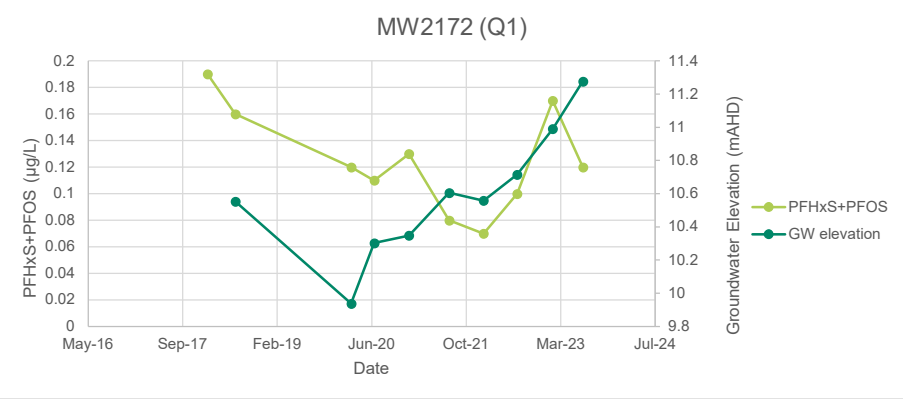


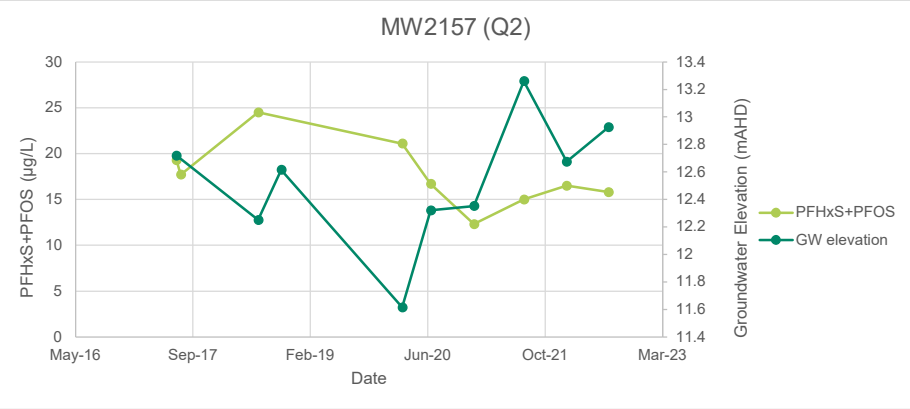


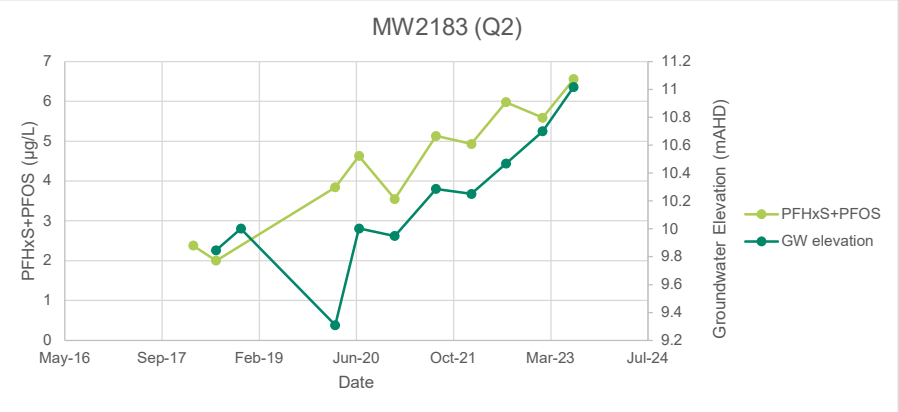


PFAS Concentrations and Groundwater Elevations

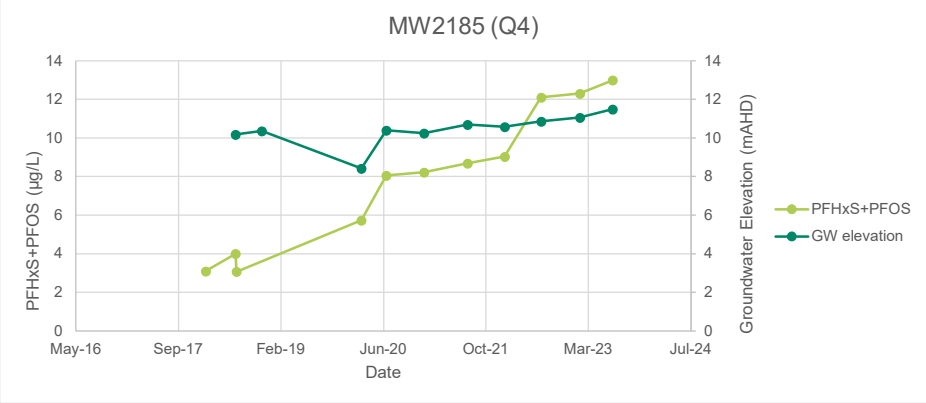


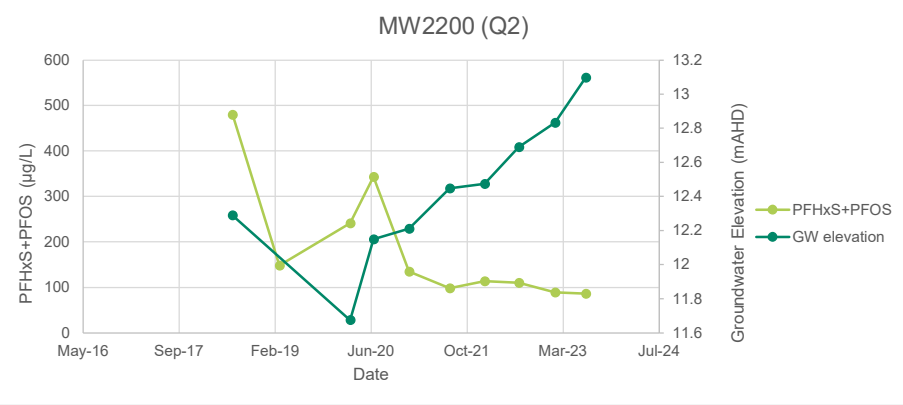


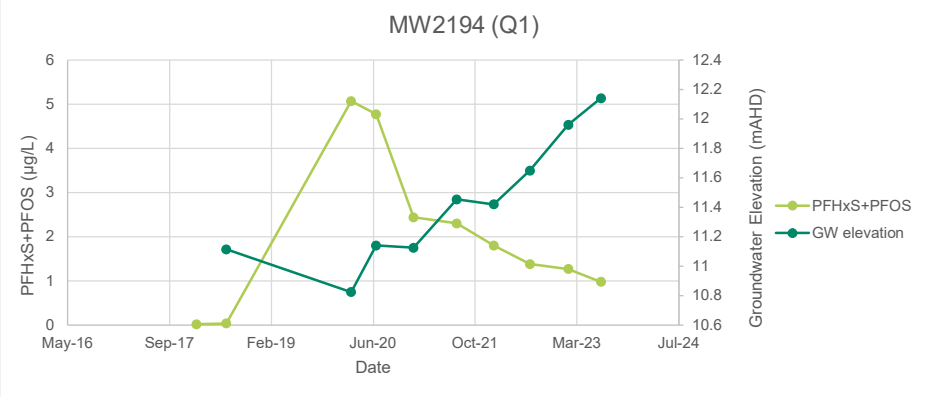


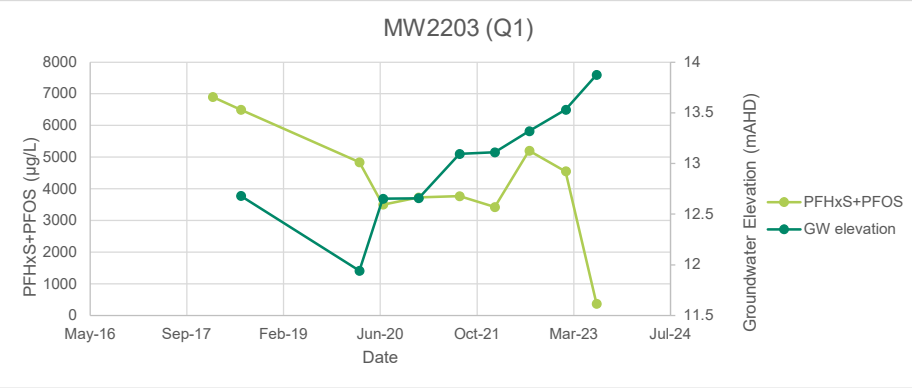


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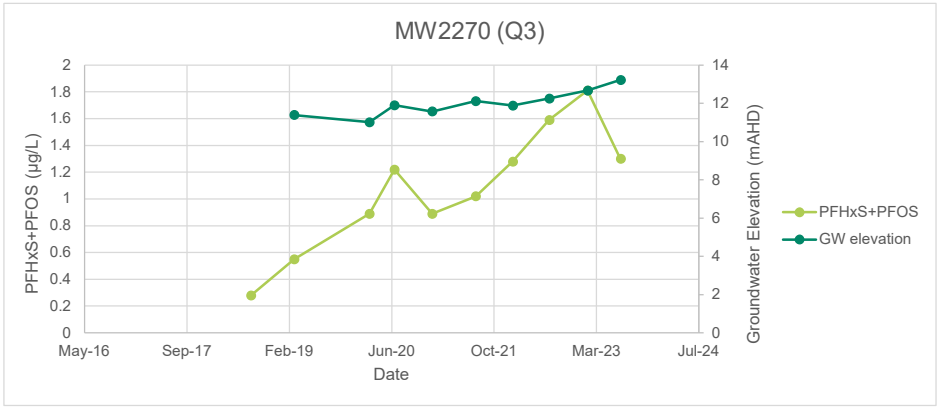


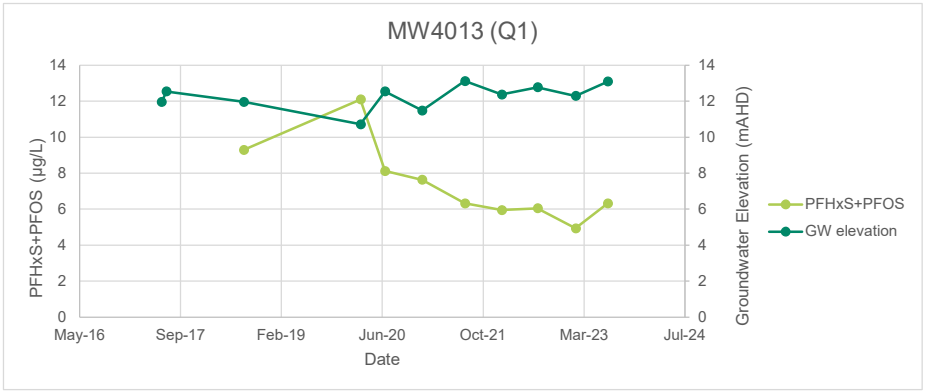


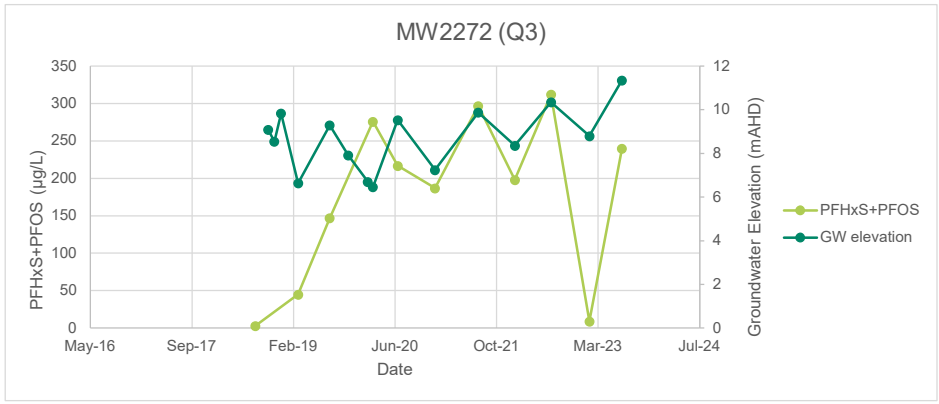


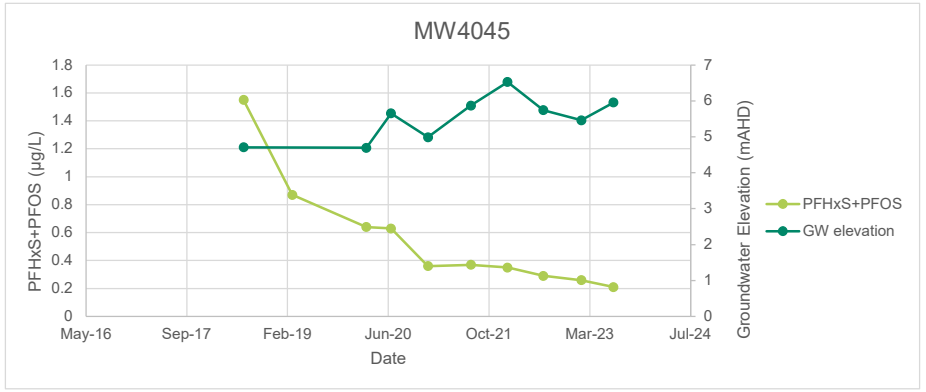


PFAS Concentrations and Groundwater Elevations

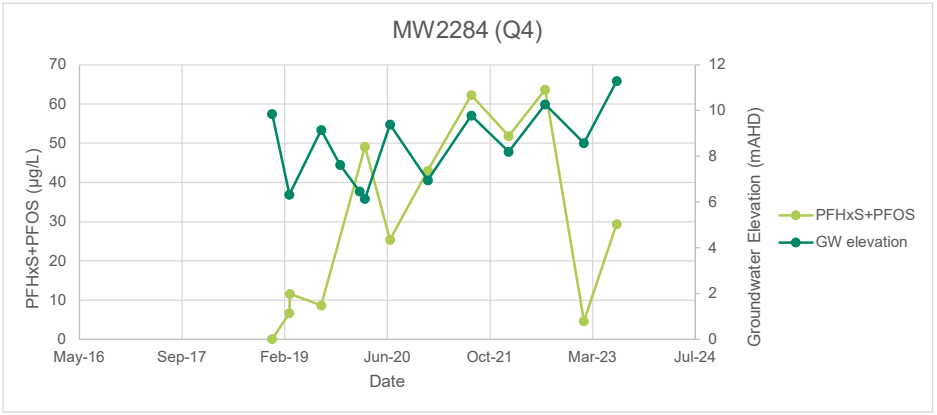


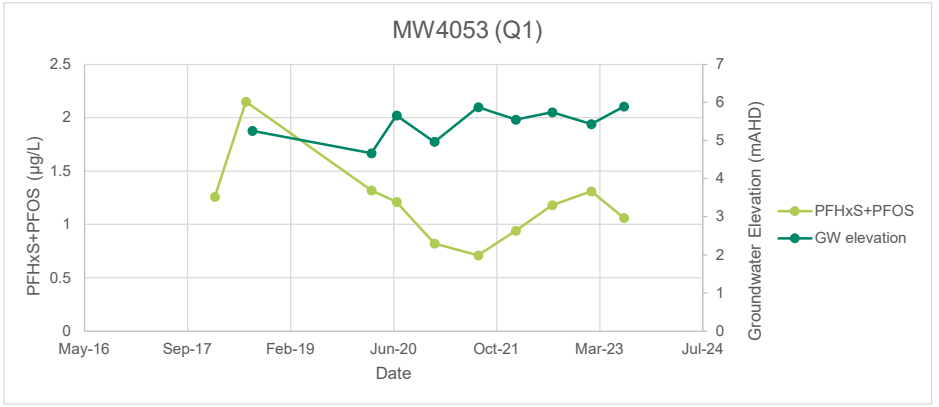


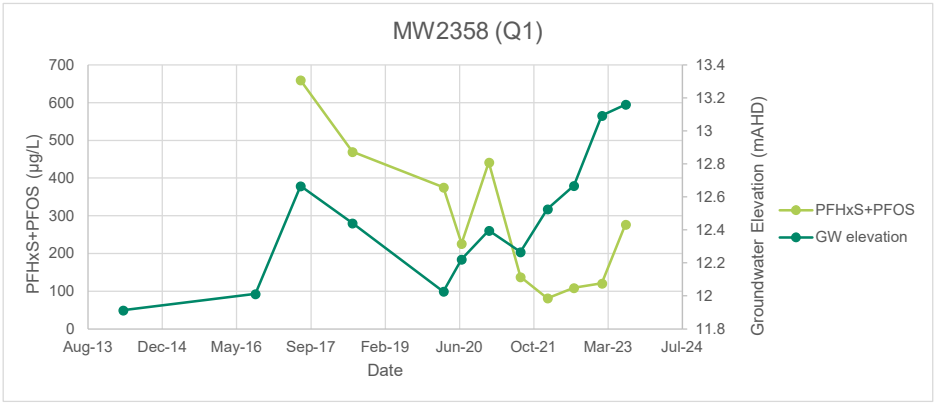


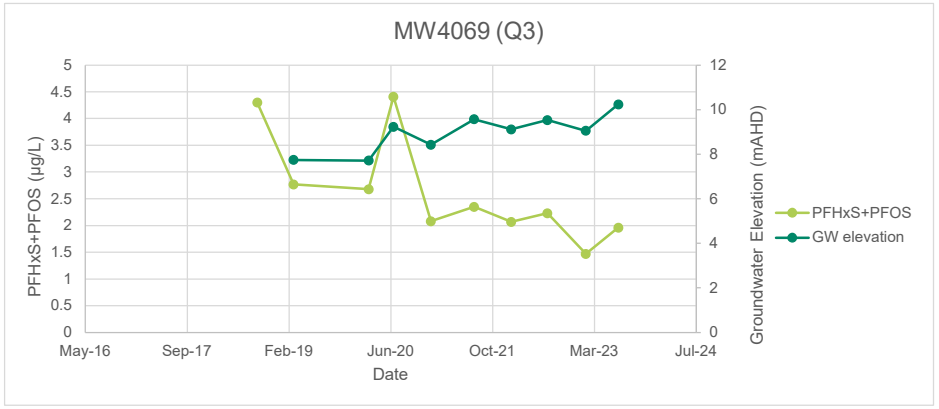


PFAS Concentrations and Groundwater Elevations

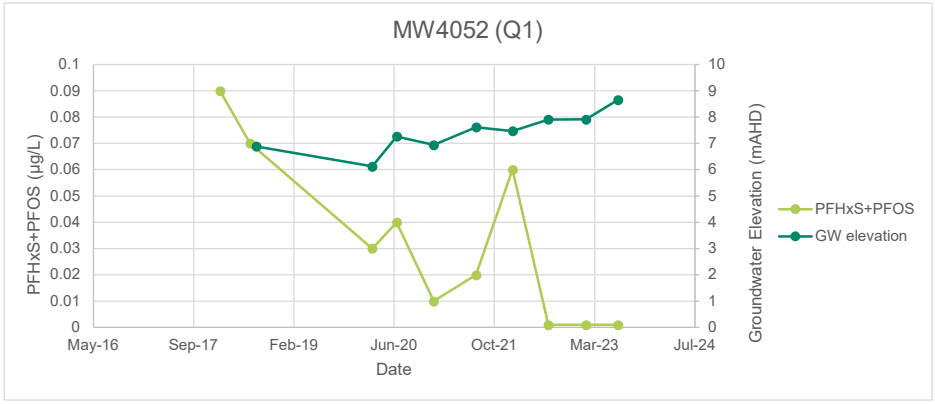


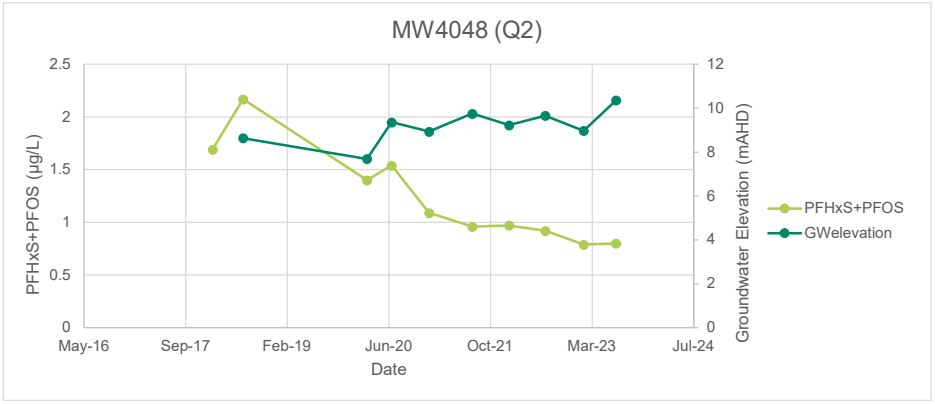






PFAS Concentrations and Groundwater Elevations





Appendix G

Bore Search

Registered Groundwater Bore Search Results Summary

Registered bores in the vicinity of MW4068

Approximate Distance from site (m)	bearing deg (c/w from N)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
0	29	**NNE**	6628-29832	-	WW	-	45	31/08/2018	INV	-	-	-	-	-	-	-	-	138.61257	-34.72623	-	-	-
10	305	**NW**	6628-29807	-	WW	-	22.5	5/07/2018	INV	-	-	-	-	-	-	-	-	138.61245	-34.72618	-	-	-
30	355	**N**	6628-29101	-	WW	-	7	17/05/2017	INV	-	-	6.5	6.5	17/05/2017	-	-	-	138.61254	-34.72602	-	-	-
70	288	**WNW**	6628-31246	-	WW	Tomw(T1)	101	16/04/2021	IRR	OPR	1/07/2022	12	0.4	16/04/2021	682	-	10	138.61182	-34.72605	F107269	A1	CT 6007 23
160	166	**SSE**	6628-3015	-	WW	Qpah	22.86	-	-	ABD	-	-	-	-	-	-	-	138.61298	-34.72761	F113429	A45	CT 5972 488
180	118	**ESE**	6628-29064	-	WW	-	8	18/05/2011	INV	-	-	4	10	18/05/2011	-	-	-	138.61436	-34.72702	D74704	Q301	CT 6010 430
240	322	**NW**	6628-22565	-	WW	Tomw(T1)	110	25/03/2005	IRR	OPR	28/02/2006	12.4	1.6	25/03/2005	684	-	15	138.61093	-34.72455	D81619	A24	CT 6052 405
300	124	**SE**	6628-3021	-	WW	Qpah	45.72	2/12/1947	IRR	OPR	3/01/1963	-	-	-	2175	-	7.58	138.61529	-34.72777	D74704	A302	CT 6010 431
310	82	**E**	6628-3050	-	WW	Qpah	51.21	3/02/1956	IRR	OPR	3/02/1956	-	-	-	6037	-	-	138.61597	-34.72587	D68816	Q153	CT 5962 340
330	186	**S**	6628-3011	-	WW	Qpah(Q1)	9.14	4/05/1948	-	NL	-	1.83	12.17	4/05/1948	644	-	1.26	138.61221	-34.7292	F113421	A37	CT 5942 459
330	302	**WNW**	6628-3033	-	WW	Qpah	60.96	4/02/1955	IRR	OPR	4/02/1955	1.52	12.48	4/02/1955	4704	-	-	138.60953	-34.72468	-	-	-
340	170	**S**	6628-3016	-	WW	Qpah	12.19	-	-	NL	-	-	-	-	-	-	-	138.61318	-34.72925	F113420	A36	CT 5671 95
360	310	**NW**	6628-3034	-	WW	Qpah	55.78	-	DOMIRR, STK	OPR	-	-	-	-	-	-	0.63	138.60959	-34.72416	D124499	A1008	CT 6242 574
360	233	**SW**	6628-22234	-	WW	Tomw(T1)	108	11/03/2005	IRR	OPR	16/12/2007	-	-	-	664	-	15.15	138.60943	-34.72817	F113423	A39	CT 6007 24
360	261	**W**	6628-29067	-	WW	-	7.3	14/05/2017	INV	-	-	5	7.1	14/05/2017	-	-	-	138.60867	-34.72678	-	-	-
380	308	**NW**	6628-3032	-	WW	Qpah(Q3)	36.58	15/09/1969	STK	OPR	15/09/1969	12.19	2.81	15/09/1969	-	-	-	138.60928	-34.72413	D124499	A1008	CT 6242 574
390	62	**ENE**	6628-29099	-	WW	-	7	30/05/2017	INV	-	-	5	10.5	30/05/2017	-	-	-	138.61638	-34.72457	D68816	Q153	CT 5962 340
390	61	**ENE**	6628-29813	-	WW	-	23.5	22/06/2018	ENV	-	-	-	-	-	-	-	-	138.61636	-34.72454	D68816	Q153	CT 5962 340
400	201	**SSW**	6628-14418	-	WW	Tomw(T1)	110	21/04/1989	IRR	BKF	10/10/2000	-	-	-	644	8.1	12	138.61101	-34.72962	F113422	A38	CT 5844 100
410	188	**S**	6628-3013	-	WW	Qpah	7.62	-	-	NL	-	-	-	-	-	-	-	138.61196	-34.72989	F113421	A37	CT 5942 459
420	164	**SSE**	6628-3014	-	WW	Qpah	13.72	6/06/1962	IRRSTK	ABD	8/05/1969	-	-	-	-	-	-	138.61385	-34.7299	D74704	A302	CT 6010 431
420	117	**ESE**	6628-29808	-	WW	-	30	6/07/2018	INV	-	-	-	-	-	-	-	-	138.61664	-34.72798	-	-	-
420	257	**WSW**	6628-22932	-	WW	Tomw(T1)	114	26/04/2007	-	OPR	1/07/2022	-	-	-	697	-	12.5	138.60804	-34.72711	F4977	A2	CT 5401 201
450	215	**SW**	6628-3018	-	WW	Tomw(T1)	114.3	1/01/1966	IRR	BKF	2/11/2016	-	-	-	688	8.4	18.94	138.60976	-34.72958	F107269	A1	CT 6007 23
450	346	**NNW**	6628-29068	-	WW	-	8	20/05/2017	INV	-	-	4	10.8	20/05/2017	-	-	-	138.61134	-34.7223	-	-	-
460	203	**SSW**	6628-15214	-	WW	Tomw(T1)	110	18/01/1990	IRR	OPR	18/01/1990	-	-	-	2778	7.3	12	138.61063	-34.73007	F113422	A38	CT 5844 100
460	246	**WSW**	6628-17292	-	WW	Tomw(T1)	99.5	10/07/1995	IRR	OPR	16/12/2007	-	-	-	680	7.6	15	138.60795	-34.7279	D74180	A19	CT 5994 359
460	216	**SW**	6628-20489	-	WW	Tomw(T1)	109	10/10/2000	IRR	OPR	6/09/2005	15	-2.1	10/10/2000	633	-	14	138.60961	-34.72958	F107269	A1	CT 6007 23
470	230	**SW**	6628-3010	-	WW	Tomw(T1)	111.86	20/01/1942	IRR	OPR	16/12/2007	5.18	7.12	13/08/1968	669	7.4	15.16	138.60861	-34.72898	F113423	A39	CT 6007 24
510	180	**S**	6628-3019	-	WW	Tomw(T1)	-	2/05/1968	IRR	OPR	7/01/1987	-	-	-	674	7.4	-	138.6126	-34.73085	D41854	A154	CT 5267 328
520	22	**NNE**	6628-29095	-	WW	-	7.5	22/05/2017	INV	-	-	-	-	-	-	-	-	138.61466	-34.72188	D87531	A3001	CT 6114 320
530	118	**ESE**	6628-29065	-	WW	-	7.5	20/05/2017	INV	-	-	4	10.9	20/05/2017	-	-	-	138.61773	-34.72848	-	-	-
530	20	**NNE**	6628-29790	-	WW	-	21	13/04/2018	INV	-	-	-	-	-	-	-	-	138.61455	-34.72176	D87531	A3001	CT 6114 320
540	239	**WSW**	6628-27242	-	WW	Tomw(T1)	108	3/04/2014	IRR	OPR	2/12/2014	16	-3.9	3/04/2014	687	-	15	138.6075	-34.72873	D74180	A22	CT 5994 360
550	261	**W**	6628-11194	-	WW	Tomw(T1)	102	1/01/1972	IRR	BKF	1/08/2006	-	-	-	801	7.8	-	138.6066	-34.727	D74180	A19	CT 5994 359
560	175	**S**	6628-3017	-	WW	Tomw(T1)	117.65	31/01/1961	IRR	OPR	7/01/1987	-	-	-	651	7.5	7.58	138.61308	-34.7313	D74704	A302	CT 6010 431
590	199	**SSW**	6628-27636	-	WW	Tomw(T1)	111	2/10/2014	-	OPR	1/07/2022	11	1.9	2/10/2014	651	-	8	138.61051	-34.73124	F18920	A1	CT 5473 653
600	13	**NNE**	6628-29069	-	WW	-	7.5	23/05/2017	INV	-	-	5	10.6	23/05/2017	-	-	-	138.61401	-34.721	D87531	A3001	CT 6114 320
600	13	**NNE**	6628-29102	-	WW	-	16	4/07/2017	INV	-	-	7	8.5	4/07/2017	-	-	-	138.61399	-34.72097	D87531	A3001	CT 6114 320
600	258	**WSW**	6628-3031	-	WW	Tomw(T1)	106.68	15/11/1963	IRR	OPR	24/07/1986	10.06	2.94	4/04/1967	697	7.9	10.1	138.60612	-34.7274	F113424	A40	CT 5598 411
610	175	**S**	6628-3012	-	WW	Qpah	18.29	-	IRRSTK	NL	-	-	-	-	-	-	-	138.6131	-34.73171	D74704	A302	CT 6010 431
610	179	**S**	6628-29063	-	WW	-	9.5	17/05/2017	INV	-	-	-	-	-	-	-	-	138.61267	-34.73177	-	-	-
610	179	**S**	6628-29891	-	WW	-	19.5	2/03/2018	INV	-	-	-	-	-	-	-	-	138.61267	-34.73177	-	-	-
610	248	**WSW**	6628-3029	-	WW	Tomw(T1)	106.68	1/01/1967	IRR	BKF	18/11/2012	-	-	-	759	7.5	12.63	138.60631	-34.7283	F114414	A53	CT 5820 3
620	187	**S**	6628-23161	-	WW	Tomw(T1)	112	17/10/2007	-	OPR	1/07/2022	12.5	0.5	17/10/2007	659	-	10	138.61171	-34.7318	F18920	A2	CT 5473 899
620	128	**SE**	6628-25229	-	WW	Qpah	10	17/05/2007	INV	-	-	4.4	10.4	17/05/2007	-	-	-	138.61793	-34.72965	-	-	-
620	232	**SW**	6628-20327	MPA152	WW	Tomw(T1)	107	25/08/2000	OBS	OPR	25/08/2000	7.41	4.88	18/09/2023	693	7.6	-	138.60714	-34.72968	-	-	-
640	225	**SW**	6628-30767	-	WW	Tomw(T1)	108	4/03/2020	-	OPR	1/07/2022	18.1	-5.9	4/03/2020	676	-	10	138.6076	-34.73031	F114404	A43	CT 5348 305
670	0	**N**	6628-29094	-	WW	-	8	19/05/2017	INV	-	-	6	8.7	19/05/2017	-	-	-	138.61258	-34.72022	-	-	-
690	81	**E**	6628-22739	-	WW	Qpah	6.5	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.62009	-34.72532	D87531	A3001	CT 6114 320
690	5	**N**	6628-29096	-	WW	-	5.5	22/05/2017	INV	-	-	3.5	11.5	22/05/2017	-	-	-	138.61319	-34.72006	D87531	A3001	CT 6114 320
700	20	**NNE**	6628-29795	-	WW	-	20	2/04/2018	INV	-	-	-	-	-	-	-	-	138.61515	-34.72033	D87531	A3001	CT 6114 320
710	257	**WSW**	6628-29655	-	WW	-	8.5	16/03/2018	INV	-	-	-	-	-	-	-	-	138.60493	-34.72765	-	-	-
730	91	**E**	6628-3049	-	WW	Qpah	12.19	8/12/1967	-	ABD	8/12/1967	-	-	-	5675	-	4.42	138.62054	-34.72633	D87531	A3001	CT 6114 320
740	248	**WSW**	6628-3027	-	WW	Qpah(Q4)	76.2	17/04/1967	IRR	BKF	24/07/2003	-	-	-	1032	8	3.79	138.60508	-34.72878	D76463	A10	CT 6008 879
740	138	**SE**	6628-17923	-	WW	Tomw(T1)	112	14/04/1996	IRR	OPR	14/10/2002	-	-	-	594	7.5	12	138.61803	-34.73119	D119715	A214	CT 6216 501
750	149	**SSE**	6628-25230	-	WW	Qpah	8	18/05/2007	INV	-	-	5.2	8.8	18/05/2007	-	-	-	138.61682	-34.73199	D87853	A501	CT 6085 986
790	160	**SSE**	6628-3023	-	WW	Qpah	22.86	3/10/1968	IRR	OPR	25/10/1968	-	-	-	2925	6.8	12.63	138.61549	-34.73294	F113402	A18	CT 5559 155
790	57	**ENE**	6628-22740	-	WW	Qpah	6.9	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.61984	-34.72235	D87531	A3001	CT 6114 320
790	92	**E**	6628-29103	-	WW	-	18.5	23/06/2017	INV	-	-	-	-	-	-	-	-	138.62123	-34.72651	D87531	A3001	CT 6114 320
810	237	**WSW**	6628-27640	-	WW	-	-	8/10/2009	-	BKF	8/10/2009	-	-	-	-	-	-	138.60509	-34.73019	F114410	A49	CT 5566 144
820	356	**N**	6628-29640	-	WW	-	6.3	24/01/2018	INV	-	-	-	-	-	-	-	-	138.61199	-34.71885	F114109	A2	CT 5870 504
830	118	**ESE**	6628-10976	-	WW	Qpah	36	30/03/1979	OBS	OPR	30/03/1979	-	-	-	2909	8.1	-	138.6206	-34.72979	D93257	A135	CT 6133 134
830	118	**ESE**	6628-16470	-	WW	Qpah	36	30/03/1979	OBS	OPR	30/03/1979	-	-	-	4175	12	-	138.6206	-34.72979	D93257	A135	CT 6133 134
830	356	**N**	6628-29847	-	WW	-	18	12/02/2018	INV	-	-	-	-	-	-	-	-	138.61197	-34.71883	F114109	A2	CT 5870 504
830	356	**N**	6628-30050	-	WW	-	39	19/10/2018	INV	-	-	-	-	-	-	-	-	138.6119	-34.71875	F114109	A2	CT 5870 504
840	356	**N**	6628-30055	-	WW	-	57	25/01/2019	INV	-	-	-	-	-	-	-	-	138.61189	-34.71867	F114109	A2	CT 5870 504
850	118	**ESE**	6628-29313	-	WW	-	8	13/02/2018	INV	-	-	-	-	-	-	-	-	138.62081	-34.72988	D93257	A503	CT 6133 136
860	182	**S**	6628-3007	-	WW	Tomw(T1)	112.78	4/02/1966	IRR	OPR	7/01/1987	12.19	1.81	19/04/1967	677	7.4	15.15	138.61224	-34.73401	D40394	A106	CT 5222 260
870	204	**SSW**	6628-3008	-	WW	-	-	-	-	NL	6/06/1962	-	-	-	-	-	-	138.60877	-34.73341	F18920	A1	CT 5473 653
870	140	**SE**	6628-3020	MPA026	WW	Tomw(T1)	114.3	17/02/1953	DOMIRR, STK	OPR	25/09/1998	-	-	-	605	8.3	9.47	138.61874	-34.73225	D87853	A52	CT 6085 954
870	276	**W**	6628-3030	-	WW	Tomw(T1)	111.25	17/02/1963	IRR	OPR	5/04/1967	8.23	4.77	13/04/1964	770	7.6	18.94	138.60309	-34.72538	D22683	A12	CT 5281 168
870	135	**SE**	6628-25231	-	WW	Qpah	8	18/05/2007	INV	-	-	-	-	-	-	-	-	138.61933	-34.73181	-	-	-
880	231	**SW**	6628-3028	-	WW	Tomw(T1)	109.73	25/02/1967	IRR	BKF	19/07/2007	-	-	-	624	7.5	12.63	138.60505	-34.73123	F114403	A42	CT 5991 483
880	24	**NNE**	6628-29072	-	WW	-	7.5	22/05/2017	INV	-	-	5.5	11.3	22/05/2017	-	-	-	138.61654	-34.71901	D87531	A3001	CT 6114 320

Approximate Distance from site (m)	bearing deg (c/w from N)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
900	96	**E**	6628-21321	MPA185	WW	Tomw(T2)	178	23/06/2003	MON	OPR	23/06/2003	6.52	9.18	9/11/2023	1658	-	20	138.62239	-34.72709	D87531	A3001	CT 6114 320
900	92	**E**	6628-22741	-	WW	Qpah	6	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.62245	-34.72652	D87531	A3001	CT 6114 320
920	138	**SE**	6628-3022	-	WW	Qpah	30.48	2/01/1969	IRR	OPR	22/07/1986	-	-	-	2227	7.9	7.58	138.6194	-34.73239	D87853	A11	CT 6085 913
930	100	**E**	6628-29066	-	WW	-	8	19/05/2017	INV	-	-	5.5	10.5	19/05/2017	-	-	-	138.62261	-34.72763	-	-	-
940	352	**N**	6628-27293	-	WW	Qpah	8.5	30/05/2014	INV	-	-	2.1	12.9	30/05/2014	-	-	-	138.61111	-34.7179	F114109	A2	CT 5870 504
950	227	**SW**	6628-29314	-	WW	-	8.5	8/02/2018	INV	-	-	-	-	-	-	-	-	138.60497	-34.73215	-	-	-
950	227	**SW**	6628-29677	-	WW	-	8.5	8/02/2018	INV	-	-	-	-	-	-	-	-	138.60496	-34.73214	-	-	-
970	141	**SE**	6628-29312	-	WW	-	8	13/02/2018	INV	-	-	-	-	-	-	-	-	138.61927	-34.73299	-	-	-
970	357	**N**	6628-3035	-	WW	Qpah	30.48	-	STK	ABD	-	-	-	-	-	-	-	138.61206	-34.71755	F114109	A2	CT 5870 504
970	94	**E**	6628-21325	-	WW	Tomw(T2)	180	26/06/2003	MAROBS	OPR	25/05/2017	17	-1	26/06/2003	1714	-	20	138.62318	-34.72686	D71564	A802	CT 6039 539
1030	219	**SW**	6628-3009	-	WW	Tomw(T1)	106	29/08/2006	IRR	RHB	29/08/2006	4	9	29/08/2006	665	7.4	6.31	138.60549	-34.73351	F7982	A4	CT 5502 879
1070	333	**NNW**	6628-3036	-	WW	Tomw(T1)	78.33	30/04/1959	IRR	OPR	7/01/1987	-	-	-	757	7.4	-	138.60728	-34.71764	D123735	A4312	CT 6237 928
1070	40	**NE**	6628-29073	-	WW	-	9	14/06/2017	INV	-	-	7	9	14/06/2017	-	-	-	138.62018	-34.71887	D87531	A3001	CT 6114 320
1080	156	**SSE**	6628-14253	-	WW	Tomw(T1)	112.7	6/02/1989	IRR	OPR	6/02/1989	-	-	-	1714	7.2	18.94	138.61737	-34.73511	D65599	A8	CT 5929 681
1090	93	**E**	6628-21322	MPA186	WW	Tomw(T1)	111	29/05/2003	IRRMON	OPR	29/05/2003	7.94	7.77	9/11/2023	994	-	15	138.62449	-34.72676	D68390	A6	CT 6055 304
1100	93	**E**	6628-21324	-	WW	Tomw(T2)	178	19/06/2003	MAR	OPR	1/09/2016	20	-4	19/06/2003	1720	-	20	138.62459	-34.72685	D71564	A802	CT 6039 539
1120	232	**SW**	6628-3026	-	WW	-	-	6/06/1962	-	ABD	6/02/1962	-	-	-	-	-	-	138.60282	-34.73242	D70756	A1	CT 5966 689
1120	20	**NNE**	6628-29789	-	WW	-	21	28/05/2018	INV	-	-	-	-	-	-	-	-	138.61676	-34.71673	D87531	A3001	CT 6114 320
1120	199	**SSW**	6628-30054	-	WW	-	48	1/02/2019	INV	-	-	-	-	-	-	-	-	138.60857	-34.73583	F6648	A2	CT 5069 787
1130	108	**ESE**	6628-26270	-	WW	Qpah	13	29/11/2011	INV	-	-	4.76	11.73	29/11/2011	-	-	-	138.62439	-34.72933	D75400	A133	CT 5997 894
1130	199	**SSW**	6628-29062	-	WW	-	9.5	17/05/2017	INV	-	-	4	8	17/05/2017	-	-	-	138.60852	-34.73584	F6648	A2	CT 5069 787
1130	20	**NNE**	6628-29668	-	WW	-	5.5	10/01/2018	INV	-	-	-	-	-	-	-	0	138.61683	-34.71673	D87531	A3001	CT 6114 320
1130	199	**SSW**	6628-29829	-	WW	-	21	5/03/2018	INV	-	-	-	-	-	-	-	-	138.60851	-34.73582	F6648	A2	CT 5069 787
1130	199	**SSW**	6628-29835	-	WW	-	36	24/08/2018	INV	-	-	-	-	-	-	-	-	138.60848	-34.73585	F6648	A2	CT 5069 787
1130	199	**SSW**	6628-30045	-	WW	-	9.5	18/05/2017	INV	-	-	-	-	-	-	-	-	138.60852	-34.73584	F6648	A2	CT 5069 787
1140	14	**NNE**	6628-3051	-	WW	Qpah	9.75	-	IRRSTK	OPR	-	6.1	9.9	-	-	-	6.32	138.61559	-34.71625	D87531	A3001	CT 6114 320
1140	29	**NNE**	6628-29106	-	WW	-	6.5	25/05/2017	INV	-	-	2.5	15.3	25/05/2017	-	-	-	138.61863	-34.71724	D87531	A3001	CT 6114 320
1140	29	**NNE**	6628-29788	-	WW	-	24	28/05/2018	INV	-	-	-	-	-	-	-	-	138.61859	-34.71726	D87531	A3001	CT 6114 320
1140	346	**NNW**	6628-29848	-	WW	-	20	15/02/2018	INV	-	-	-	-	-	-	-	-	138.60961	-34.71622	F114109	A2	CT 5870 504
1150	346	**NNW**	6628-29639	-	WW	-	10	25/01/2018	INV	-	-	-	-	-	-	-	-	138.60959	-34.7162	F114109	A2	CT 5870 504
1170	3	**N**	6628-29107	-	WW	-	8	3/06/2017	INV	-	-	5	10.6	3/06/2017	-	-	-	138.61329	-34.71568	F114109	A2	CT 5870 504
1180	162	**SSE**	6628-3006	-	WW	Tomw(T1)	117.35	4/04/1967	IRR	OPR	24/02/1992	45.72	-30.72	4/04/1967	659	7.6	11.37	138.61656	-34.73632	D89745	A403	CT 6097 591
1180	54	**NE**	6628-32857	-	WW	-	8.6	4/10/2023	INV	DRY	4/10/2023	-	-	4/10/2023	-	-	-	138.62301	-34.71994	D87531	A3001	CT 6114 320
1200	52	**NE**	6628-32866	-	WW	-	8.5	5/10/2023	INV	DRY	5/10/2023	-	-	5/10/2023	-	-	-	138.62297	-34.71962	D87531	A3001	CT 6114 320
1220	180	**S**	6628-19416	-	WW	Tomw(T1)	104	2/12/1998	IRR	OPR	1/12/2003	-	-	-	320	-	15	138.61265	-34.73728	D41289	A105	CT 5255 338
1230	96	**E**	6628-21323	-	WW	Tomw(T2)	183	6/06/2003	MAR	OPR	1/09/2016	13.5	3.4	6/06/2003	1631	-	20	138.62593	-34.7275	D71564	A802	CT 6039 539
1230	54	**NE**	6628-32863	-	WW	-	8.3	4/10/2023	INV	DRY	4/10/2023	-	-	4/10/2023	-	-	-	138.62339	-34.7197	D87531	A3001	CT 6114 320
1230	29	**NNE**	6628-27300	-	WW	Qpah	9	30/05/2014	INV	-	-	4.1	12.9	30/05/2014	-	-	-	138.6191	-34.71653	D87531	A3001	CT 6114 320
1260	30	**NNE**	6628-29811	-	WW	-	42	24/07/2018	ENV	-	-	-	-	-	-	-	-	138.61958	-34.71644	D87531	A3001	CT 6114 320
1270	30	**NNE**	6628-29105	-	WW	-	9.5	7/06/2017	INV	-	-	6	10.5	7/06/2017	-	-	-	138.61962	-34.71638	D87531	A3001	CT 6114 320
1270	31	**NNE**	6628-29114	-	WW	-	17	6/07/2017	INV	-	-	4	12.5	6/07/2017	-	-	-	138.61964	-34.71639	D87531	A3001	CT 6114 320
1270	31	**NNE**	6628-30053	-	WW	-	61	13/12/2018	INV	-	-	-	-	-	-	-	-	138.61969	-34.71644	D87531	A3001	CT 6114 320
1290	54	**NE**	6628-29672	-	WW	-	8.7	5/02/2018	INV	-	-	-	-	-	-	-	-	138.62404	-34.71941	D87531	A3001	CT 6114 320
1290	54	**NE**	6628-30046	-	WW	-	24	29/03/2018	INV	-	-	-	-	-	-	-	-	138.624	-34.71939	D87531	A3001	CT 6114 320
1320	269	**W**	6628-3772	-	WW	Qpah(Q2)	19.2	4/02/1955	STK	UKN	23/03/1999	1.52	9.48	12/09/1963	8797	-	-	138.5981	-34.72646	D86975	A78	CT 6093 631
1320	42	**NE**	6628-32240	-	WW	-	27	20/12/2022	ENV	-	-	4.6	11.6	20/12/2022	-	-	2	138.62221	-34.71734	D87531	A3001	CT 6114 320
1340	222	**SW**	6628-20392	-	WW	Tomw(T2)	180	20/11/2000	MAR	OPR	21/01/2004	12.4	-2	20/11/2000	2745	-	20	138.6027	-34.73522	F6648	A2	CT 5069 787
1340	343	**NNW**	6628-29638	-	WW	-	6	25/01/2018	INV	-	-	-	-	-	-	-	-	138.60828	-34.71469	F114109	A2	CT 5870 504
1340	20	**NNE**	6628-29641	-	WW	-	7	9/01/2018	INV	-	-	-	-	9/01/2018	-	-	-	138.61768	-34.71495	D87531	A3001	CT 6114 320
1340	41	**NE**	6628-32254	-	WW	-	27	30/01/2023	MON	-	-	-	-	-	-	-	-	138.62231	-34.71716	D87531	A3001	CT 6114 320
1360	35	**NE**	6628-29649	-	WW	-	8.6	7/02/2018	INV	-	-	-	-	-	-	-	-	138.62109	-34.71625	D87531	A3001	CT 6114 320
1360	170	**S**	6628-30052	-	WW	-	39	14/12/2018	INV	-	-	-	-	-	-	-	-	138.6152	-34.73834	-	-	-
1360	46	**NE**	6628-32317	-	WW	-	12	14/12/2022	MON	-	-	-	-	-	-	-	-	138.62322	-34.71764	D87531	A3001	CT 6114 320
1360	45	**NE**	6628-32362	-	WW	-	12	15/12/2022	-	-	-	-	-	-	-	-	-	138.62307	-34.71754	D87531	A3001	CT 6114 320
1360	297	**WNW**	6628-29876	-	WW	Tomw(T1)	98	25/10/2018	-	OPR	1/07/2022	16	-3.3	25/10/2018	757	-	12	138.5992	-34.72072	D68938	A119	CT 5958 974
1370	174	**S**	6628-27223	-	WW	Qpah	40	23/02/2014	-	BKF	13/04/2023	5.7	8.4	23/02/2014	-	-	7.58	138.61403	-34.73854	F19261	A2	CT 5329 813
1370	156	**SSE**	6628-29316	-	WW	-	9.5	12/02/2018	INV	-	-	-	-	-	-	-	-	138.61859	-34.73753	D10067	A300	CT 5484 235
1370	175	**S**	6628-32425	-	WW	-	132	31/03/2023	-	-	-	12	2.1	31/03/2023	1580	-	8	138.61401	-34.73858	F19261	A2	CT 5329 813
1390	297	**WNW**	6628-3803	MPA030	WW	Tomw(T1)	83.82	16/03/1953	DOMIRR, STK	OPR	29/03/2005	15.85	-2.85	13/08/1963	740	7.8	16.42	138.59902	-34.72052	D68938	A119	CT 5958 974
1390	42	**NE**	6628-32239	-	WW	-	28.5	18/12/2022	ENV	-	-	4.4	12.1	18/12/2022	-	-	2	138.62275	-34.71689	D87531	A3001	CT 6114 320
1400	299	**WNW**	6628-3804	-	WW	Qpah(Q4)	54.86	1/01/1959	IRRSTK	BKF	19/06/2006	5.49	6.51	-	540	-	0.63	138.59917	-34.72011	D80770	A303	CT 6042 640
1410	102	**ESE**	6628-29317	-	WW	-	8.5	15/02/2018	INV	-	-	-	-	-	-	-	-	138.62773	-34.72887	-	-	-
1410	41	**NE**	6628-32233	-	WW	-	27	16/12/2022	ENV	-	-	4.6	11.6	16/12/2022	-	-	2	138.6227	-34.71665	D87531	A3001	CT 6114 320
1410	44	**NE**	6628-32315	-	WW	-	12	13/12/2022	MON	-	-	-	-	-	-	-	-	138.62335	-34.71712	D87531	A3001	CT 6114 320
1410	286	**WNW**	6628-29654	-	WW	-	8.5	30/01/2018	INV	-	-	-	-	-	-	-	-	138.59766	-34.72279	-	-	-
1420	114	**ESE**	6628-26272	-	WW	Qpah	14	28/11/2011	INV	-	-	5.86	11.9	28/11/2011	-	-	-	138.62676	-34.73146	D121093	A1	CT 6224 168
1420	25	**NNE**	6628-29109	-	WW	-	9	2/06/2017	INV	-	-	7	9	2/06/2017	-	-	-	138.61906	-34.71465	D87531	A3001	CT 6114 320
1420	24	**NNE**	6628-29787	-	WW	-	23.5	25/05/2018	INV	-	-	-	-	-	-	-	-	138.619	-34.71463	D87531	A3001	CT 6114 320
1420	285	**WNW**	6628-29806	-	WW	-	24	4/07/2018	INV	-	-	-	-	-	-	-	-	138.59761	-34.72285	-	-	-
1430	197	**SSW**	6628-2990	-	WW	Qpah	51.82	11/01/1957	IRR	OPR	11/01/1957	-	-	-	626	-	-	138.60802	-34.73856	F114399	A38	CT 5452 11
1430	41	**NE**	6628-32235	-	WW	-	28.5	14/01/2023	ENV	-	-	-	-	-	-	-	2	138.6228	-34.71645	D87531	A3001	CT 6114 320
1430	44	**NE**	6628-32318	-	WW	-	12	17/12/2022	MON	-	-	-	-	-	-	-	-	138.62352	-34.71705	D87531	A3001	CT 6114 320
1440	44	**NE**	6628-32326	-	WW	-	12	12/12/2022	MON	-	-	-	-	-	-	-	0	138.62356	-34.71691	D87531	A3001	CT 6114 320
1450	44	**NE**	6628-32316	-	WW	-	12	16/12/2022	MON	-	-	-	-	-	-	-	-	138.62348	-34.7168	D87531	A3001	CT 6114 320
1450	40	**NE**	6628-32227	-	WW	-	30	12/12/2022	ENV	-	-	4.9	11.1	12/12/2022	-	-	2	138.62289	-34.71627	D87531	A3001	CT 6114 320
1460	38	**NE**	6628-31782	-	WW	-	30.3	11/04/2022	INV	-	-	4.3	12.4	11/04/2022	6458	-	-	138.6224	-34.71585	D87531	A3001	CT 6114 320
1470	38	**NE**	6628-31780	-	WW	-	27	13/04/2022	INV	-	-	4.3	12.5	13/04/2022	5633	-	-	138.62239	-34.71574	D87531	A3001	CT 6114 320
1470	38	**NE**	6628-31781	-	WW	-	30.3	8/04/2022	INV	-	-	4.3	12.4	8/04/2022	6475	-	-	138.62254	-34.71585	D87531	A3001	CT 6114 320
1470	39	**NE**	6628-31783	-	WW	-	30.3	6/04/2022	INV	-	-	4.3	12.1	6/04/2022	6262	-	-	138.6226	-34.71591	D87531	A3001	CT 6114 320
1470	38	**NE**	6628-31788	-	WW	-	27	27/04/2022	INV	-	-	4.3	12.5	27/04/2022	6447	-	-	138.62239	-34.71576	D87531	A3001	CT 6114 320

Approximate Distance from site (m)	bearing deg (c/w from N)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1480	38	**NE**	6628-31786	-	WW	-	30	20/04/2022	INV	-	-	4.3	12.3	20/04/2022	6573	-	-	138.62263	-34.71584	D87531	A3001	CT 6114 320
1480	38	**NE**	6628-31787	-	WW	-	29.3	22/04/2022	INV	-	-	4.3	12.5	22/04/2022	6671	-	-	138.62255	-34.71578	D87531	A3001	CT 6114 320
1480	38	**NE**	6628-31789	-	WW	-	27	29/04/2022	INV	-	-	4.3	12.6	29/04/2022	5828	-	-	138.62243	-34.71571	D87531	A3001	CT 6114 320
1480	232	**SW**	6628-28289	-	WW	Tomw(T1)	106	15/01/2016	-	OPR	1/07/2022	14	-3.7	15/01/2016	713	-	5	138.59973	-34.73443	F35781	A10	CT 5257 481
1480	40	**NE**	6628-32221	-	WW	-	30.8	9/12/2022	ENV	-	-	4.6	11.5	9/12/2022	-	-	2	138.62301	-34.71606	D87531	A3001	CT 6114 320
1490	351	**N**	6628-3044	-	WW	Qpah	42.67	-	DOM	ABD	1/06/1962	-	-	-	-	-	-	138.60996	-34.71296	F114109	A2	CT 5870 504
1500	40	**NE**	6628-32219	-	WW	-	30.3	6/12/2022	ENV	-	-	4.8	11.2	6/12/2022	-	-	2	138.62309	-34.7159	D87531	A3001	CT 6114 320
1500	313	**NW**	6628-29651	-	WW	-	8	5/04/2018	INV	-	-	-	-	-	-	-	-	138.60049	-34.7171	D92443	A501	CT 6121 647
1510	320	**NW**	6628-28229	-	WW	Qpah	8	29/02/2016	INV	-	-	4.8	8.3	29/02/2016	-	-	-	138.60198	-34.7158	D92443	A30	CT 6121 636
1510	341	**NNW**	6628-30056	-	WW	-	57	14/11/2018	INV	-	-	-	-	-	-	-	-	138.60712	-34.71341	F114109	A2	CT 5870 504
1520	323	**NW**	6628-28232	-	WW	Qpah	8	8/03/2016	INV	-	-	4.7	8.5	8/03/2016	-	-	-	138.60247	-34.71541	D92443	A30	CT 6121 636
1520	341	**NNW**	6628-29831	-	WW	-	46.5	30/07/2018	INV	-	-	-	-	-	-	-	-	138.60704	-34.71332	F114109	A2	CT 5870 504
1520	341	**NNW**	6628-29841	-	WW	-	10	12/02/2018	INV	-	-	-	-	-	-	-	-	138.60702	-34.7133	F114109	A2	CT 5870 504
1530	320	**NW**	6628-28230	-	WW	Qpah	9.5	29/02/2016	INV	-	-	4.4	8.7	29/02/2016	-	-	-	138.60187	-34.71566	D92443	A30	CT 6121 636
1530	321	**NW**	6628-28231	-	WW	Qpah	8	29/02/2016	INV	-	-	4.1	9	29/02/2016	-	-	-	138.60205	-34.7155	D92443	A30	CT 6121 636
1540	189	**S**	6628-2989	-	WW	Qpah	9.75	9/04/1969	STK	OPR	10/04/1969	-	-	-	4676	7	-	138.6099	-34.73994	F114398	A37	CT 5809 576
1540	158	**SSE**	6628-3005	-	WW	-	-	-	-	NL	19/09/2005	-	-	-	-	-	-	138.61885	-34.73911	D10071	A176	CT 5532 539
1540	349	**N**	6628-3045	-	WW	Tomw(T1)	96.93	8/11/1946	-	ABD	1/06/1962	-	-	-	1670	-	1.89	138.60942	-34.71258	F114109	A2	CT 5870 504
1550	131	**SE**	6628-21788	-	WW	Tomw(T1)	108.4	8/05/2004	IRR	OPQ	27/01/2005	4.8	13.6	8/05/2004	627	8.1	12	138.62533	-34.73553	D9593	A1	CT 6201 293
1560	143	**SE**	6628-3024	MPA080	WW	Qpah	45.72	10/06/1969	OBS	OPR	5/12/1975	2.83	15.31	5/12/1975	187	7.5	0.38	138.62284	-34.73744	-	-	-
1560	222	**SW**	6628-21916	-	WW	Qpah	4.5	3/04/2004	MON	-	-	3	7.1	3/04/2004	-	-	-	138.60116	-34.73671	F6648	A2	CT 5069 787
1570	108	**ESE**	6628-21260	-	WW	Qpah	30	28/05/2003	INV	-	-	10	8.2	28/05/2003	1968	-	1.5	138.62892	-34.73068	D75400	A101	CT 5997 880
1580	43	**NE**	6628-24575	-	WW	Qpah	12.6	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.62435	-34.71581	D87531	A3001	CT 6114 320
1590	41	**NE**	6628-29800	-	WW	-	25.5	11/06/2018	INV	-	-	-	-	-	-	-	-	138.62388	-34.71538	D87531	A3001	CT 6114 320
1610	235	**SW**	6628-31037	-	WW	-	6	2/12/2020	INV	-	-	-	-	-	-	-	-	138.59809	-34.73461	D22169	A102	CT 5207 465
1620	26	**NNE**	6628-29642	-	WW	-	6.5	9/01/2018	INV	-	-	-	-	9/01/2018	-	-	-	138.62045	-34.71321	D87531	A3001	CT 6114 320
1620	268	**W**	6628-3773	-	WW	Tomw(T1)	102.72	1/01/1959	DOMIRR	OPR	1/01/1959	-	-	-	684	8.5	12.63	138.59483	-34.72688	D87669	A80	CT 6092 483
1620	219	**SW**	6628-18545	-	WW	Tomw(T2)	180	8/06/1997	MAR	OPR	26/08/2004	0.83	10.47	31/05/2000	253	8.1	15	138.60146	-34.73762	F6648	A2	CT 5069 787
1620	220	**SW**	6628-29061	-	WW	-	8.4	18/05/2017	INV	-	-	-	-	-	-	-	-	138.6011	-34.73738	F6648	A2	CT 5069 787
1640	170	**S**	6628-29836	-	WW	-	24	14/08/2018	INV	-	-	-	-	-	-	-	-	138.6156	-34.74082	D10430	A286	CT 5740 212
1640	234	**SW**	6628-31036	-	WW	-	6	2/12/2020	INV	-	-	-	-	-	-	-	-	138.59806	-34.73503	D22169	A102	CT 5207 465
1650	114	**ESE**	6628-26271	-	WW	Qpah	14	28/11/2011	INV	-	-	6.77	12.23	28/11/2011	-	-	-	138.62909	-34.73222	D121093	A1	CT 6224 168
1650	267	**W**	6628-3774	MPA003	WW	Tomw(T1)	80.16	1/01/1960	OBS	OPR	1/01/1960	5.64	5.62	1/08/1960	-	-	-	138.59449	-34.72694	D87669	A80	CT 6092 483
1650	205	**SSW**	6628-29658	-	WW	-	10	4/04/2018	INV	-	-	-	-	-	-	-	-	138.60494	-34.73976	F6648	A2	CT 5069 787
1650	171	**S**	6628-29828	-	WW	-	10	18/05/2018	INV	-	-	-	-	-	-	-	-	138.61544	-34.74094	-	-	-
1660	220	**SW**	6628-21917	-	WW	Qpah	4.5	3/04/2004	MON	-	-	3	7.8	3/04/2004	-	-	-	138.60087	-34.73773	-	-	-
1670	339	**NNW**	6628-29849	-	WW	-	20	16/02/2018	INV	-	-	-	-	-	-	-	-	138.60598	-34.71219	F114109	A2	CT 5870 504
1670	234	**SW**	6628-31035	-	WW	-	10	1/12/2020	INV	-	-	-	-	-	-	-	-	138.59781	-34.73515	D22169	A102	CT 5207 465
1680	339	**NNW**	6628-29070	-	WW	-	6	31/05/2017	INV	-	-	3.5	10.2	31/05/2017	-	-	-	138.60596	-34.71217	F114109	A2	CT 5870 504
1680	328	**NNW**	6628-29071	-	WW	-	7.2	17/05/2017	INV	-	-	5	8	17/05/2017	-	-	-	138.60279	-34.71341	-	-	-
1680	328	**NNW**	6628-29817	-	WW	-	23.5	22/06/2018	ENV	-	-	-	-	-	-	-	-	138.60277	-34.71345	-	-	-
1690	207	**SSW**	6628-2987	MPA079	WW	Tomw(T1)	105.16	1/01/1930	OBSSTK	NL	25/09/1998	2.3	9.09	19/08/1976	1250	8.2	0.25	138.60413	-34.7398	D11291	A38	CT 5409 500
1710	47	**NE**	6628-29648	-	WW	-	6.1	5/02/2018	INV	-	-	-	-	-	-	-	-	138.62622	-34.71574	D87531	A3001	CT 6114 320
1720	106	**ESE**	6628-26269	-	WW	Qpah	14	29/11/2011	INV	BKF	21/12/2023	-	-	21/12/2023	-	-	-	138.63065	-34.73056	D75400	A103	CT 5997 882
1720	43	**NE**	6628-29108	-	WW	-	7.5	1/06/2017	INV	-	-	5.5	12.5	1/06/2017	-	-	-	138.62529	-34.71488	D87531	A3001	CT 6114 320
1720	208	**SSW**	6628-17040	-	ENG	-	3.8	-	-	-	-	-	-	-	-	-	-	138.60371	-34.73995	-	-	-
1720	36	**NE**	6628-28175	-	WW	Qpah	9	31/01/2015	-	-	-	4	12.7	31/01/2015	-	-	-	138.62354	-34.71364	D87531	A3001	CT 6114 320
1730	162	**SSE**	6628-22767	-	WW	Tomw(T1)	120	14/12/2006	IRR	OPR	21/12/2014	15	1	14/12/2006	660	-	15	138.61839	-34.74106	D10070	A322	CT 5483 909
1740	228	**SW**	6628-3770	-	WW	Qpah(Q4)	51.82	1/01/1920	-	ABD	-	0	10	9/03/1948	622	7.9	-	138.59847	-34.73677	D65671	A801	CT 5926 823
1750	225	**SW**	6628-3769	-	WW	Qpah	51.82	-	IRRSTK	ABD	-	-	-	-	434	-	1.26	138.59895	-34.73735	-	-	-
1750	62	**ENE**	6628-27301	-	WW	Qpah	18	9/06/2014	INV	-	-	-	-	-	-	-	-	138.62949	-34.71874	D81278	A20	CT 6052 298
1750	195	**SSW**	6628-29657	-	WW	-	10	18/01/2018	INV	-	-	-	-	-	-	-	-	138.60766	-34.74148	F114398	A37	CT 5809 576
1760	35	**NE**	6628-28176	-	WW	Qpah	6.5	31/07/2015	-	-	-	6	11	31/07/2015	-	-	-	138.62362	-34.71329	D87531	A3001	CT 6114 320
1760	180	**S**	6628-2992	-	WW	Qpah	7.92	-	-	NL	-	-	-	-	-	-	0.38	138.61262	-34.74211	D11167	A1255	CT 5192 364
1760	145	**SE**	6628-3002	-	WW	Qpah	45.72	11/09/1950	IRR	OPR	10/07/1969	-	-	-	2610	6.5	5.05	138.62368	-34.73921	F126160	A4	CT 6024 138
1770	35	**NE**	6628-28174	-	WW	Qpah	9.2	31/07/2015	-	-	-	4.2	12.6	31/07/2015	-	-	-	138.62373	-34.71325	D87531	A3001	CT 6114 320
1770	33	**NE**	6628-28173	-	WW	Qpah	7.5	31/08/2015	-	-	-	4.5	13.4	31/08/2015	-	-	-	138.62306	-34.71283	D87531	A3001	CT 6114 320
1770	237	**WSW**	6628-29678	-	WW	-	6.5	16/03/2018	INV	-	-	-	-	-	-	-	-	138.59626	-34.73482	-	-	-
1770	18	**NNE**	6628-29785	-	WW	-	22	23/05/2018	INV	-	-	-	-	-	-	-	-	138.61871	-34.71112	D87531	A3001	CT 6114 320
1770	33	**NE**	6628-31827	-	WW	-	30	9/05/2022	INV	-	-	4.2	13.7	9/05/2022	-	-	-	138.62308	-34.71285	D87531	A3001	CT 6114 320
1770	32	**NNE**	6628-31829	-	WW	-	30	13/05/2022	INV	-	-	4.2	13.7	13/05/2022	-	-	-	138.62293	-34.71272	D87531	A3001	CT 6114 320
1780	19	**NNE**	6628-29643	-	WW	-	10	10/01/2018	INV	-	-	-	-	-	-	-	-	138.61876	-34.71108	D87531	A3001	CT 6114 320
1780	33	**NE**	6628-31828	-	WW	-	30	11/05/2022	INV	-	-	4.2	13.6	11/05/2022	-	-	-	138.62312	-34.71276	D87531	A3001	CT 6114 320
1780	33	**NE**	6628-31830	-	WW	-	30	16/05/2022	INV	-	-	4.2	13.5	16/05/2022	-	-	-	138.62325	-34.71284	D87531	A3001	CT 6114 320
1790	141	**SE**	6628-27461	-	WW	Qpah	10	-	-	BKF	30/09/2014	7.8	11.1	30/09/2014	-	-	-	138.62492	-34.73882	D95820	A3	CT 6159 620
1790	141	**SE**	6628-27466	-	WW	Qpah	10	30/09/2014	-	BKF	-	7.8	11.1	30/09/2014	-	-	-	138.62492	-34.73882	D95820	A3	CT 6159 620
1810	64	**ENE**	6628-30491	-	WW	-	7.5	5/09/2019	INV	-	-	-	-	5/09/2019	-	-	-	138.63035	-34.71906	D81278	A20	CT 6052 298
1810	225	**SW**	6628-3771	-	WW	Tomw(T1)	109.73	1/06/1966	IRRSTK	-	-	15.4	-5.4	18/03/2004	701	-	0.51	138.59858	-34.73782	-	-	-
1810	290	**WNW**	6628-15531	-	WW	Tomw(T1)	97	19/10/1990	IRR	OPR	19/10/1990	-	-	-	1199	-	30	138.59392	-34.72055	D19001	A15	CT 6123 582
1820	60	**ENE**	6628-25849	-	WW	Qpah	14	18/05/2011	MON	-	-	5.2	11	18/05/2011	-	-	-	138.6299	-34.71806	D87531	A3001	CT 6114 320
1830	263	**W**	6628-29676	-	WW	-	8.5	14/03/2018	INV	-	-	-	-	-	-	-	-	138.59269	-34.72838	-	-	-
1830	65	**ENE**	6628-30490	-	WW	-	7.5	4/09/2019	INV	-	-	-	-	4/09/2019	-	-	-	138.63076	-34.71931	D81278	A20	CT 6052 298
1840	43	**NE**	6628-29074	-	WW	-	10	23/05/2017	INV	-	-	7	10	23/05/2017	-	-	-	138.62643	-34.71416	D87531	A3001	CT 6114 320
1840	36	**NE**	6628-29786	-	WW	-	18	30/03/2018	INV	-	-	-	-	-	-	-	-	138.62451	-34.71291	D87531	A3001	CT 6114 320
1850	72	**ENE**	6628-32858	-	WW	-	11	12/09/2023	INV	DRY	12/09/2023	-	-	12/09/2023	-	-	-	138.63184	-34.72103	D81278	A20	CT 6052 298
1860	61	**ENE**	6628-17227	-	WW	Qpah	11	12/04/1995	INV	BKF	17/09/2009	-	-	-	-	-	-	138.63033	-34.71811	D87531	A3001	CT 6114 320
1860	62	**ENE**	6628-25430	-	WW	Qpah	12	7/12/2009	INV	-	-	-	-	-	-	-	-	138.63058	-34.71839	D87531	A3001	CT 6114 320
1860	60	**ENE**	6628-25848	-	WW	-	14	18/05/2011	INV	-	-	5.5	11.4	18/05/2011	-	-	-	138.63028	-34.7179	D87531	A3001	CT 6114 320
1860	29	**NNE**	6628-29644	-	WW	-	6	10/01/2018	INV	-	-	-	-	-	-	-	-	138.62241	-34.71157	D87531	A3001	CT 6114 320
1870	349	**N**	6628-29637	-	WW	-	7.7	26/02/2018	INV	-	-	-	-	-	-	-	-	138.60864	-34.70971	F114109	A2	CT 5870 504

Approximate Distance from site (m)	bearing deg (c/w from N)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1880	58	**ENE**	6628-17229	-	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.63008	-34.71739	D87531	A3001	CT 6114 320
1880	56	**ENE**	6628-17228	-	WW	Qpah	9.2	12/04/1995	INV	-	-	-	-	-	-	-	-	138.62976	-34.71684	D87531	A3001	CT 6114 320
1890	59	**ENE**	6628-17230	-	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.63029	-34.71748	D87531	A3001	CT 6114 320
1890	185	**S**	6628-29656	-	WW	-	9.5	18/01/2018	INV	-	-	-	-	-	-	-	-	138.61077	-34.74322	D74911	A101	CT 5991 591
1900	58	**ENE**	6628-17231	-	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.6303	-34.7173	D87531	A3001	CT 6114 320
1900	339	**NNW**	6628-29636	-	WW	-	7.2	26/02/2018	INV	-	-	-	-	-	-	-	-	138.60514	-34.71023	F114109	A2	CT 5870 504
1910	173	**S**	6628-2994	-	WW	Tomw(T1)	116.25	30/01/1948	IRR	OPR	1/01/1952	-	-	-	1106	-	1.26	138.61499	-34.74331	D11245	A1206	CT 5700 950
1910	63	**ENE**	6628-24583	-	WW	Qpah	12	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.63134	-34.71854	D87531	A3001	CT 6114 320
1920	171	**S**	6628-2995	-	WW	Qpah	48.77	30/05/1951	-	NL	-	-	-	-	1035	-	1.26	138.61578	-34.74331	D11306	A1197	CT 5098 39
1920	56	**ENE**	6628-24590	-	WW	Qpah	9.5	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.6301	-34.71661	D87531	A3001	CT 6114 320
1920	45	**NE**	6628-29090	-	WW	-	8	29/05/2017	INV	-	-	5	11.1	29/05/2017	-	-	-	138.62742	-34.71401	D87531	A3001	CT 6114 320
1920	45	**NE**	6628-29113	-	WW	-	17.5	30/06/2017	INV	-	-	6	10.2	30/06/2017	-	-	-	138.62739	-34.714	D87531	A3001	CT 6114 320
1930	61	**ENE**	6628-17394	-	WW	Qpah	10.5	6/06/1995	INV	-	-	-	-	-	-	-	-	138.6311	-34.71795	D87531	A3001	CT 6114 320
1930	62	**ENE**	6628-24585	-	WW	Qpah	12.5	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.63118	-34.71807	D87531	A3001	CT 6114 320
1930	16	**NNE**	6628-3042	-	WW	Tomw(T1)	91.44	14/11/1946	-	ABD	1/06/1962	1.83	14.17	14/11/1946	4597	-	-	138.61842	-34.70952	H105400	S3076	CT 5870 504
1930	64	**ENE**	6628-24586	-	WW	Qpah	13	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.63156	-34.71858	D87531	A3001	CT 6114 320
1930	31	**NNE**	6628-29840	-	WW	-	42	20/07/2018	ENV	-	-	-	-	-	-	-	-	138.62358	-34.71137	D87531	A3001	CT 6114 320
1940	182	**S**	6628-2991	-	WW	Qpah	7.62	8/07/1940	-	NL	-	-	-	-	2247	-	0.38	138.61177	-34.74371	D16306	A13	CT 5677 376
1940	31	**NNE**	6628-29812	-	WW	-	20	20/06/2018	ENV	-	-	-	-	-	-	-	-	138.62364	-34.71132	D87531	A3001	CT 6114 320
1950	31	**NNE**	6628-29645	-	WW	-	7.5	2/02/2018	INV	-	-	-	-	-	-	-	-	138.62368	-34.71128	D87531	A3001	CT 6114 320
1960	63	**ENE**	6628-24582	-	WW	Qpah	11.7	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.63171	-34.71819	D87531	A3001	CT 6114 320
1960	63	**ENE**	6628-24584	-	WW	Qpah	19	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.6317	-34.7182	D87531	A3001	CT 6114 320
1960	46	**NE**	6628-29796	-	WW	-	24	7/06/2018	INV	-	-	-	-	-	-	-	-	138.62793	-34.71391	D87531	A3001	CT 6114 320
1960	63	**ENE**	6628-32860	-	WW	-	10	11/09/2023	INV	DRY	11/09/2023	-	-	11/09/2023	-	-	-	138.63174	-34.71823	D87531	A3001	CT 6114 320
1970	46	**NE**	6628-27299	-	WW	Qpah	9	30/06/2014	INV	-	-	4.8	11.2	30/06/2014	-	-	-	138.62809	-34.71395	D87531	A3001	CT 6114 320
1970	34	**NE**	6628-32257	-	WW	-	30	14/01/2023	MON	-	-	-	-	-	-	-	-	138.62454	-34.71146	D87531	A3001	CT 6114 320
1980	37	**NE**	6628-31729	-	WW	-	30.1	25/03/2022	INV	-	-	4	12	25/03/2022	-	-	-	138.62553	-34.71199	D87531	A3001	CT 6114 320
1980	184	**S**	6628-20781	-	WW	Qpah	10	12/02/2002	INV	BKF	6/03/2003	6	8	12/02/2002	-	-	-	138.61102	-34.74401	D62388	A16	CT 5897 798
1980	54	**NE**	6628-25431	-	WW	Qpah	12	7/12/2009	INV	-	-	-	-	-	-	-	-	138.63017	-34.71583	D87531	A3001	CT 6114 320
1980	36	**NE**	6628-29794	-	WW	-	18	9/07/2018	INV	-	-	-	-	-	-	-	-	138.62527	-34.71173	D87531	A3001	CT 6114 320
1980	36	**NE**	6628-31733	-	WW	-	30	1/04/2022	INV	-	-	4	12.2	1/04/2022	5039	-	-	138.62526	-34.71176	D87531	A3001	CT 6114 320
1990	37	**NE**	6628-31732	-	WW	-	30	28/03/2022	INV	-	-	4.3	11.8	28/03/2022	4193	-	-	138.62559	-34.71191	D87531	A3001	CT 6114 320
1990	37	**NE**	6628-29088	-	WW	-	7.5	1/07/2017	INV	-	-	4	12.1	1/07/2017	-	-	-	138.6256	-34.71188	D87531	A3001	CT 6114 320
1990	62	**ENE**	6628-32861	-	WW	-	9.4	11/09/2023	INV	DRY	11/09/2023	-	-	11/09/2023	-	-	-	138.6319	-34.71792	D87531	A3001	CT 6114 320
1990	293	**WNW**	6628-23638	-	WW	Tomw(T1)	97	17/04/2008	-	OPR	1/07/2022	15	-3.1	17/04/2008	950	-	30	138.59251	-34.71913	F103330	A10	CT 5898 433

Key

-	Unknown
SWL	Standing Water Level
RSWL	Reduced Water Level
TDS	Total Dissolved Solids
m	metres
mg/L	milligrams per litre

Aquifer Key

Qpah	Hindmarsh Clay
Qpah(Q1)	Hindmarsh Clay, (Quaternary aquifer)
Qpah(Q2)	Hindmarsh Clay, (Quaternary aquifer)
Qpah(Q3)	Hindmarsh Clay, (Quaternary aquifer)
Tomw(T1)	Port Willunga Formation
Tomw(T2)	Port Willunga Formation
	Unknown/ Unnamed GIS unit

Latest Status Key

ABD	Abandoned
BKF	Backfilled
DRY	Dry
NL	Not Located
OPQ	Operational as required
OPR	Operational
RHB	Rehabilitated
UKN	Unknown
	Unknown

Purpose Key

DOM	Domestic
DOMIRR	Domestic/Irrigation
DOMIRR, ST	Domestic/Irrigation/stock
ENV	Environmental
INV	Investigation
IRR	Irrigation
IRRSTK	Irrigation/Stock
MON	Monitoring
OBS	Observation
STK	Stock

Class Key

ENG	Engineering Well
WW	Water Well
Strat	Stratigraphic

Data Source:

WaterConnect (2024) Groundwater Data Online Database, Department of Environment, Water and Natural Resources, Government of South Australia, https://www.waterconnect.sa.gov.au/GD.

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