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Ongoing Monitoring Report (July 2023 - June 2024)

PFAS OMP - Singleton Military Area

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ABN: 68706814312

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Table of Contents

List of Tables

List of Figures

List of Acronyms

Acronym	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
ALG	Alternate Landing Ground
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure
BoM	Bureau of Meteorology
CSM	Conceptual Site Model
Defence	Department of Defence
DNSDC	Defence National Storage and Distribution Centre
DoH	Department of Health
DSI	Detailed Site Investigation
EPC	Exposure Point Concentration
FSANZ	Food Standards Australia New Zealand
FFTA	Former Firefighting Training Area
GW	Groundwater
GWE	Groundwater Elevation
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
HLG	Helicopter Landing Ground
LOR	Limit of Reporting
MW	Monitoring Well
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OMP	Ongoing Monitoring Plan
OMR	Ongoing Monitoring Report
ORP	Oxidation-Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PMAP	PFAS Management Area Plan

Acronym	Term
QA/QC	Quality Assurance and Quality Control
SAQP	Sample and Analysis Quality Plan
STA	Singleton Training Area
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Standing Water Level
TDI	Tolerable Daily Intake
TOC	Top of Casing

List of Units

Units	Term
˚C	Degrees Celsius
µg/L	Micrograms per litre
µS/cm	MicroSiemens per centimetre
g	Grams
km	Kilometre
L	Litres
m	Metre
mAHD	metres relative to Australian Height Datum
mbgs	Metres below ground surface
mbTOC	Metres below top of casing
mg/kg	Milligrams per kilogram
mg/L	Milligrams per litre
mm	Millimetres
mV	Millivolts

Executive Summary

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 poly-fluoroalkyl substances (PFAS) at the Singleton Military Area (the 'Site') in New South Wales (NSW).

Objective

The objective of implementing the OMP is to provide information on changes in location and concentrations of PFAS within the environment. The data is required to assist risk management decisions by Defence and NSW State Government agencies to protect human health and the environment.

Monitoring Scope

AECOM completed two monitoring events of groundwater, surface water and sediment between July 2023 and June 2024 (the 'monitoring period') in accordance with the sampling and analysis quality plan (SAQP) developed by AECOM (2024b). This monitoring targeted PFAS, namely perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS) as they are the primary chemicals associated with the PFAS fire-fighting foams used at the Site historically.

Monitoring Results

Groundwater

- As specified in the OMP, groundwater sampling during this monitoring period focused on locations along the northern (downgradient) boundary of the Site and within off-site areas to the north. Groundwater monitoring near the on-site PFAS source areas will continue to be monitored during the next monitoring period.
- PFAS concentrations in groundwater along the northern boundary were decreasing or remained below the laboratory limit of reporting during the current monitoring period.
- PFAS concentrations off-site were below the human health assessment criteria or laboratory limit of reporting, with the exception of monitoring well MW056. PFOS+PFHxS concentrations at MW056 were above the human health drinking water criteria, consistent with the results from this location since July 2023. With a number of other PFAS source areas within the off-site area, the source of PFAS at MW056 is unknown. However, given that this monitoring well is located within the inferred extent of the off-site PFAS plume associated with the Singleton Sewage Treatment Plant (STP), it is unlikely to be associated with the Site.
- Based on the data collected during the current monitoring period, the potential risk to off-site users of groundwater remains unchanged. Defence will continue to monitor to assess potential temporal trends in PFAS concentrations.

Surface Water

- Surface water samples were collected on-site and off-site during the monitoring period.

- PFAS concentrations in surface water were similar to historical results and present no further risks to people or the environment.
- The highest concentrations were reported in Sub-Catchment A, located close to the former Cantonment Fire Station (FCFS) and the Defence National Storage and Distribution Centre (DNSDC). Further assessment has demonstrated that the quantity of PFAS leaving the Site from this sub-catchment via surface water is low.
- Elevated concentrations were also reported off-site to the North West, within the Singleton STP effluent and surface water locations near the STP.
- Based on the data collected to date there were no discernible trends in surface water concentrations with the majority of locations exhibiting a fluctuating pattern and observable correlation to rainfall.

What is an 'order of magnitude'?

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

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

Sediment

- Sediment samples were collected on-site and off-site during the monitoring period, co-located with the surface water samples.
- PFAS concentrations in sediments fluctuated but remained within or the same order of magnitude of historical ranges or close to laboratory limit of reporting and present no further risks to people or the environment.

Conceptual Site Model and Risk Summary

- The Conceptual Site Model (CSM) is used to describe the ways that PFAS moves from source areas on the Site into the surrounding environment. Specifically, the CSM describes the links between PFAS sources, transport pathways, and possible exposure scenarios. The CSM was developed during the investigation stages and the most recent CSM is summarised in the PFAS Management Area Plan (PMAP) (Defence, 2021).
- The risk profile was established by the human health and ecological risk assessments and is summarised in the PFAS Management Area Plan (Defence, 2021).
- While there have been localised changes in PFAS concentrations during the monitoring period, the CSM and risk profile have not changed.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) for the Singleton Military Area (the 'Site') in New South Wales (NSW). The location of the Site and surrounding areas is shown in **Figure F1** in **Appendix A**.

In order to meet the objectives of the OMP, the monitoring targeted PFAS in groundwater, surface water and sediment at selected locations on-site and off-site areas in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2024b).

This Ongoing Monitoring Report (OMR) has been prepared in accordance with the *Ongoing Monitoring Program Reporting Guidance* issued in February 2024 (Defence, 2024) based on monitoring data collected between July 2023 and June 2024 (herein referred to as the monitoring period).

1.1 Purpose and Objective

The objective of the monitoring program set out in the OMP (Defence, 2021a) is to provide information on changes in the location and concentration of PFAS within the environment. The data is required to assist risk management decisions by Defence and State Government agencies to protect human health and the environment.

The assessment of changes in the distribution, concentration, and transport of PFAS against appropriate guideline values provides an:

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

The ongoing monitoring will also provide data to support PFAS Management Area Plan (PMAP) (Defence, 2021b) actions, and inform any changes to the risk profile and recommendations for triggers to review the OMP or the PMAP.

1.2 Scope

The scope of works for this OMR included assessing changes to the distribution of PFAS over the monitoring period and if these changes have implications for the understanding of the Conceptual Site Model (CSM) and the risk profile with respect to PFAS contamination at and migrating from the Site. This included the evaluation of data reported in the following sampling event reports:

- *Sampling Event Factual Report, July 2023. PFAS OMP – Singleton Lone Pine Barracks (Site ID 0356).* 18 January 2024 (AECOM, 2024a).
- *Sampling Event Factual Report, January 2024. PFAS OMP – Singleton Military Area (Site ID 0356).* 28 May 2024 (AECOM, 2024c).

These reports are included in **Appendix E**.

2.0 Site Setting

2.1 Site Description

The site identification and setting are summarised in **Table 1** below.

Table 1 Site Identification and Setting Summary

Element	Description
Site ID	0356
Site Location	The Site is located approximately 8 km South of the township of Singleton, in the vicinity of Newcastle, NSW, as shown on **Figure F1** in **Appendix A**.
Regional Meteorology	The climate at the Site is characterised as temperate, with cool winters and warm summers. Winter months (May – October) are typically drier than summer months (November – April). The Bureau of Meteorology (BoM) at Singleton Military Defence Area (station number: 061430) has recorded the climate statistics on Site since 2017, presenting a record of approximately 8 years. The following is a historic summary of temperature and rainfall data from this station: • Mean monthly maximum temperatures have varied from 16.7°C in July 2022 to 36.1°C in January 2019. • Annual rainfall at the Site ranges between 344 mm and 1026 mm per annum. • Mean monthly rainfall is highest between October and March, averaging 81.2 mm per month, and lowest from April to September averaging 28.5 mm per month. • The annual rainfall between July 2023 and June 2024 was 446 mm, drier than the previous monitoring period.
Topography and Hydrology	The Site is dominated by moderate to gently sloping inclines and hills, with the foothills of the Broken Back Ranges rising steeply at the southern extent of the Site. The Site and its surrounds are located in the central lowlands along the Hunter River and characterised by undulating to rolling hills and inclines on weak sedimentary rocks. The Site comprises several drainage lines that ultimately drain North and East towards the Hunter River (located approximately 2 kilometres North of the Site boundary). The primary on-site drainage lines include: • Mudies Creek and Emigrant Creek along the western and eastern boundaries of the Dochra Airfield. • a number of creeks emanating from the southern area of the Site. Note that based on non-detection of PFAS and lack of identified source areas, these waterways were not considered further during the Detailed Site Investigation (DSI) (AECOM, 2019). • Doughboy Hollow Creek, which traverses the Site and runs to the North. The off-site areas comprise a number of water bodies including private dams and smaller drainage lines located on residential properties. The Sewage Treatment Plant (STP) to the North of the Site receives wastewater from both the Site and wider Singleton township. The wetland East of the STP is understood to have hydraulic connectivity with groundwater present within the Hunter River alluvial floodplain at Whittingham. Therefore, surface water that migrates from Doughboy Hollow Creek to the wetland area East of the STP may provide recharge of groundwater present in the Hunter River alluvial floodplain.

Element	Description
	The previous investigations indicated that the major surface water bodies are ephemeral, and flow in response to rainfall, with no base flow component connected to the groundwater. Additionally, there is potential for surface water to recharge groundwater in the area. The DSI (AECOM, 2019) divided the catchments of the Cantonment into three sub-catchments (as presented on **Figure F3** in **Appendix A**) as follows: • **Sub-Catchment A**: Northern portion of the Cantonment. The primary drainage line is an unnamed tributary of Doughboy Hollow Creek which flows in a northerly direction and discharges off-site at the northern Cantonment boundary. In addition to runoff via the unnamed tributary of Doughboy Hollow Creek, surface water runoff from the Cantonment during heavy rainfall events may occur via overland flow. • **Sub-Catchment B**: Central portion of the Cantonment. The primary drainage line is an unnamed tributary of Doughboy Hollow Creek which flows in a North West direction and discharges off-site at the western Cantonment boundary down-gradient of the Helicopter Landing Ground (HLG). • **Sub-Catchment C**: Southern portion of the Cantonment. The primary drainage line is the main watercourse of Doughboy Hollow Creek which flows in a North West direction and discharges off-site at the western Cantonment boundary in the vicinity of the landfill and former flame thrower range.
Geology and Hydrogeology	The Site and surrounding areas are located within the northern part of the Sydney Basin which is characterised by Permian and Triassic aged sedimentary rock. The lithology underlying the Site is Narrabeen Group which is composed of sandstone with some conglomerate, claystone, and shale. Some less prominent rocks present in the area include quartzose sandstone of the Hawkesbury Sandstone, siltstone, and tuff. Coal measures are also extensive consisting of black coal interbedded with sandstone, shale mudstone, conglomerate with minor chert and tuff. The soils within the low-lying areas of the Site consist primarily of alluvial soils, yellow and red podzolic soils. Towards the southern extent of the Site where elevation is higher, the soil profiles are thinner and are classified as shallow soils. The hydrogeology of the Site can be summarised into four notable sub-units. • The **perched groundwater unit** is an unconfined discontinuous perched zone within the sediments flanking creeks. Groundwater is present within the alluvium/colluvium flanking major water courses across the Site. Recharge is mainly from rainfall and the zone periodically dries out following extended periods of low rainfall. • The **alluvial groundwater unit** presents groundwater in the low-lying part of the Site, within the alluvial sediments of the Hunter River floodplain. It is an unconfined aquifer and recharges predominantly from surface water. This zone has suitable yield used for irrigation, agriculture, and farming. • In the weathered zone of the Permian bedrock lies the **shallow groundwater unit** where its presence is reliant on rainfall. The groundwater is perched above geological zones of low hydraulic conductivity such as clay or shale lenses within the bedrock. Groundwater quality within this unit is generally poor due to the leaching of salts from the

Element	Description
	Permian bedrock, which has been confirmed by the DSI (AECOM, 2019) and sampling under the OMP. • The **deep groundwater unit** forms the regional aquifer underlying the Site. Rock porosity and the interconnection of void space highly dictates the flow of groundwater through this aquifer, followed by structural features in the rock. The previous investigations and monitoring have indicated groundwater flows in a general northerly direction towards the Hunter River.
Flora and Fauna	The species or species habitat which are known to occur at the Site and are listed as threatened species (under EPBC Protected Matters Search Tool as reported in the OMP) are as follows: • Birds: the regent honeyeater and swift parrot are critically endangered. • Mammals: the spot-tailed quoll is endangered. • Plants: *Euphrasia arguta* (annual herb) and *Prasophyllum sp. Wybong* (terrestrial orchid) are critically endangered. • Reptiles: the broad-headed snake is vulnerable. The following fauna were observed at the Site and within the immediate surrounds during DSI (AECOM, 2019): • Numerous birds, including small eagles, falcons, black cockatoos and tawny frogmouth owls, wedge-tailed eagle, Noisy miner, Australian raven, Australian wood duck, Yellow-tailed black cockatoo. • Kangaroos. • Wild horses. • Wild dogs, wild boars and foxes. • Tadpoles and frogs. • Goannas, lace monitors. • Frilled-neck lizard. • Red-bellied black snake. • Possum. • Small tortoise. • Turtle. • Crab legs.
Land Uses Surrounding the Site	The current land uses of the surrounding off-site areas are as follows: • Grazing land and the floodplain areas of Whittingham and Glenridding, as well as the STP owned by Singleton Council are located to the North. The Whittingham Fire Station and Airstrip are located 1 kilometre and 1.3 kilometres North East, respectively. • The Pokolbin State Forest and the Broken Back Range are located to the South of the Site. Hunter Valley vineyards are located further South East of the Site. • A mix of rural and semirural land holdings including sparsely wooded open land and pastureland is to the east. The Hunter River lies to the north east, irrigating the croplands on the floodplains. • Grazing land and irrigated cropland within the floodplains of the Hunter River are located immediately West of the Site.

2.2 PFAS Source Areas

PFAS source areas can be primary or secondary. Primary sources are generally areas of PFAS contamination where aqueous film forming foam (AFFF) was used or stored, for example a fire training area. Secondary sources are areas where PFAS accumulates and then continues to feed into the environment. PFAS can generally travel from a source to human or environmental receptors by surface water and groundwater. These are referred to as “migration pathways”.

The OMP (Defence, 2021a) provides a list of primary and secondary PFAS source areas that were identified in the DSI (AECOM, 2019), as summarised below:

- On-site PFAS Source Areas:
  - Former Cantonment Fire Station and fire training pits (PFAS in soil, surface water, groundwater and concrete).
  - DNSDC (PFAS in soil, groundwater, surface water and sediment).
  - ALG (PFAS in soil, surface water and sediment).
  - Dochra Airfield (PFAS in soil, groundwater, surface water and sediment).
  - HLG (PFAS in soil, groundwater, surface water and sediment).
- There is the potential that off-site activities and/or businesses may have used or generated wastes containing PFAS.

Since the PMAP (Defence 2021b) was published, additional investigation works completed by Defence on-site have provided multiple lines of evidence that the residual mass of PFAS in soils following the demolition of the Former Cantonment Fire Station (FCFS) is limited, and that the mass of PFAS migrating from the Site in surface water via the northern boundary is minimal. Refer to Section 6.1 for further details.

2.3 Monitoring Area

The monitoring is completed in two distinct areas, they are:

- **On-site**: which includes on-site areas where the PFAS sources were identified as follows:
  - Lone Pine Barracks:
    - Former Cantonment Fire Station and surrounding area
    - Defence National Storage and Distribution Centre (DNSDC)
    - Alternate Landing Ground (ALG) and associated Former Firefighting Training Area (FFTA)
    - HLG
  - Singleton Training Area (STA)
    - Dochra Airfield
- **Off-site**: which includes private properties to the North, North West and North East of the Site.

The on-site monitoring area is shown on **Figure F1** in **Appendix A**.

3.0 Sampling and Analytical Methodology

3.1 Sampling Methodology and Scope

The SAQP outlines the proposed schedule, rationale and methodology for sampling, prescribing that groundwater, surface water and sediment sampling across the on-site and off-site monitoring areas be undertaken on a biannual (six-monthly) basis for an initial period of three years, with selected locations sampled either biannually, annually (once per year) or biennially (every second year). The monitoring also includes biannual sampling of the wastewater from the off-site STP.

The SAQP provides the list of locations to be sampled during each sampling event, along with the sampling methodology for each of the media, and the Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs). The SAQP (AECOM, 2024b) used during the January 2024 event has been included in **Appendix D**.

A summary of the OMP sampling events completed during the monitoring period is provided in **Table 2**. Note that some locations could not be sampled due to impediments encountered during the sampling events, which are described in **Section 3.2**.

Additionally, given that a number of locations (MW008, MW011, MW048, MW049, MW050, MW052, MW059, MW063, MW071, MW073 and MW167) are scheduled for sampling on a biennial frequency (starting from July 2022), they were not sampled during this monitoring period.

Table 2 Summary of Monitoring Events

Monitoring Event (Event type/ Sampling dates)	Locations to sample as per SAQP	Locations Sampled during Event	Analysis
July 2023 (Annual event) (17 - 19 July 2023 and 25 October 2023)	**On-site**		PFAS extended suite
	7 GW	6 GW	
	13 SW	10 SW	
	13 SD	13 SD	
	Off-site		
	12 GW	10* GW	
	7 SW	7 SW	
	7 SD	7 SD	
	1 OTH	1 OTH	
January 2024 (Biannual event) (23 - 24 January 2024)	**On-site**		PFAS extended suite
	4 GW	5** GW	
	13 SW	7 SW	
	13 SD	13 SD	
	Off-site		
	7 SW	6 SW	
	7 SD	7 SD	
	1 OTH	1 OTH	

Notes:
SW = surface water; GW = groundwater, SD = sediment, OTH = effluent
PFAS extended suite is outlined in Table 3-9, Section 3.5 of the OMP (Defence, 2021a).
* MW056 and MW126 were resampled in October 2023 by the use of HydraSleeves™ and low flow sampling methodology to confirm the elevated results for samples collected in July 2023.
** Includes sampling of unscheduled groundwater locations MW056 and MW126 at the request of Defence and the NSW EPA to confirm previous results.

3.2 Deviations from SAQP

Deviations from the scope outlined in the SAQP (AECOM, 2024b) for the monitoring period are summarised in **Table 3** below. Note that the deviations are as per those presented in the sampling event reports (in **Section 1.2**), which are provided in **Appendix E**.

Table 3 Deviations from SAQP during the monitoring period

SAQP Requirement	Sampling Event Deviation	Impact of Deviation on Dataset
Annual Sampling Event – July 2023		
19 groundwater locations are identified to be sampled as part of the annual sampling event.	On-site monitoring well MW104 had an insufficient volume of water and therefore was not sampled during the annual sampling event.	The lack of sampling data is not considered to have a significant impact on the dataset, or present a significant data gap, as a nearby well (MW110) was sampled, targeting the same shallow aquifer, and located along the Northern Cantonment boundary. It is also noted that the lack of water at MW104 has prevented collection of samples during all OMP sampling events to date, including the subsequent event in January 2024 and the July 2024 (to be reported under separate cover).
	Monitoring wells MW129 and MW132 (off-site locations on private properties) were not accessed as contact was unable to be made with the private property owners and therefore were not sampled during the annual sampling event.	The lack of sampling data at these locations presents a potential data gap in monitoring the extent of PFAS in groundwater off-site to the North East. Replacement wells should be considered in publicly accessible locations to the North. Note that both MW129 and MW132 were not required to be sampled during the subsequent event in January 2024.
Groundwater samples will be collected from monitoring wells using HydraSleeves™	Given the results of groundwater monitoring wells MW056 and MW126 (located on private properties) reported a significant increase in PFOS+PFHxS concentrations, above drinking water guideline criteria (0.07 µg/L) for samples collected in July 2023, these locations were resampled in October 2023 to confirm the results. Resampling was completed by the use of two separate methods, HydraSleeves™ and low flow methodology.	The additional sampling data for MW056 confirmed the original (July 2023) results for both methods of sampling. The additional sampling data for MW126 were within the historical range, and below human health screening criteria, indicating the July 2023 result was likely to be anomalous. This is further discussed in **Section 8**.
20 surface water locations are identified to be sampled as part of the annual sampling event.	On-site surface water locations SW114, SW115 and SW116 were dry and therefore were not sampled during the annual sampling event.	The lack of sampling data at these locations were not considered to have a significant impact on the dataset, or present a significant data gap, given that it confirms that the source>receptor>pathway linkages

SAQP Requirement	Sampling Event Deviation	Impact of Deviation on Dataset
		for PFAS in surface water were incomplete at the time of sampling. It is noted that these surface water locations were dry during the subsequent event in January 2024.
Biannual Sampling Event - January 2024		
4 groundwater locations are identified to be sampled as part of the biannual sampling event.	On-site monitoring well MW104 had an insufficient volume of water and therefore was not sampled during the biannual sampling event.	The lack of sampling data at MW104 was not considered to have a significant impact on the dataset, or present a significant data gap, as a nearby well (MW110) was sampled, which targets the same shallow aquifer, and located along the Northern Cantonment Boundary. It is also noted that the lack of water at MW104 has prevented collection of samples during all OMP sampling events to date (including the subsequent event July 2024, to be reported under separate cover).
	Two unscheduled monitoring wells were sampled during the biannual sampling event. Given samples collected from groundwater monitoring wells MW056 and MW126 (located on private properties) reported a significant increase in PFOS+PFHxS concentrations, above drinking water guideline criteria (0.07 µg/L) for samples collected from both locations in July 2023 and from MW056 in October 2023, these locations were resampled in January 2024 to confirm the results.	No impact to dataset as the additional data was collected to confirm previous results. The additional sampling data for MW056 were consistent with the results obtained from sampling in July 2023 and October 2023. Note that the concentrations in MW126 returned to within the historical range, therefore, it is likely that the results reported in July 2023 were anomalous. Further discussed in **Section 8**.
20 surface water locations are identified to be sampled as part of the biannual sampling event	On-site surface water locations SW004, SW005 SW034, SW114, SW115 and SW116, and off-site surface water location SW553, were dry and therefore were not sampled during the biannual sampling event.	The lack of sampling data at these locations are not considered to have a significant impact on the dataset, or present a significant data gap, given that it confirms that the source>receptor>pathway linkages for PFAS in surface water were incomplete at the time of sampling. It is noted that these surface water locations were able to be sampled in the subsequent monitoring event in July 2024 sampling event (to be reported under separate cover).

4.0 Quality Assurance and Quality Control

Data validation pertaining to the data in this report has been previously completed and discussed within the individual sampling event reports listed in **Section 1.2**.

Data validation procedures employed in the assessment of the field and laboratory Quality Assurance and Quality Control (QA/QC) data, completed as per **Section 3.2** of the SAQP (AECOM, 2024b), 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 (i.e. >95% of the data was suitable for use and DQIs passed acceptance criteria) for the purpose of the sampling event reports and this OMR.

All data collected during the monitoring period was reviewed and uploaded to the Defence ESdat database in accordance with the Defence Contamination Management Manual (DCMM) requirements.

5.0 Assessment Criteria

Adopted screening criteria references national guidance in the form of PFAS National Environmental Management Plan (NEMP) (Heads of Environment Protection Authority Australia and New Zealand [HEPA], 2025), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. At the time of preparing this report, a number of guidance documents were available in Australia and referred to including:

- HEPA, 2025. PFAS NEMP Version 3.0. March 2025.
- Department of Health (DoH), 2017. Health Based Guidance Values for PFAS for use in Site investigations in Australia. April 2017. This document is based on the works undertaken by Food Standards Australia New Zealand (FSANZ) in 2017 (FSANZ 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water. August 2019.
- National Environment Protection Council (NEPC), 2013. National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) Schedule B1, 1999 as amended in 2013.

The adopted PFAS screening criteria to assess the surface water and groundwater data generated as part of the ongoing monitoring are presented in **Table 4** (Human Health) and **Table 5** (Ecological). Note that the PFAS NEMP (HEPA, 2025) does not provide screening criteria for PFAS in sediments.

It is noted that for the purpose of presenting data within this report AECOM has focused on perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS) and PFOS+ perfluorohexanesulfonic acid (PFHxS) i.e., those PFAS for which there is either human health and/or ecological screening criteria.

Table 4 PFAS Criteria Summary: Human Health

Media	Pathway	Compound	Criteria	Comment / Reference
Water – groundwater	Drinking water	PFOS+PFHxS	0.07 µg/L	The values presented in the PFAS NEMP (HEPA, 2025) are from DoH (2017) which published final health-based guidance values for PFAS for use in Site investigations in Australia. DoH utilised the tolerable daily intake (TDI) for PFOS and PFOA from FSANZ (2017) and the methodology described in Chapter 6.3.3 of the NHMRC Australian Drinking Water Guidelines (ADWG, 2022) 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 were screened against these criteria.*
		PFOA	0.56 µg/L	

Media	Pathway	Compound	Criteria	Comment / Reference
Water – surface water	Recreational use	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. These values were adopted by the PFAS NEMP (HEPA, 2025). *All surface water results were screened against these criteria.*
		PFOA	10 µg/L	

Table 5 PFAS Criteria Summary: Ecological

Media	Pathway	Compound	Criteria	Comment/Reference
Water – surface water and groundwater	Freshwater	PFOS	0.00023 µg/L	The values are from the PFAS NEMP (HEPA, 2025) which endorsed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 99% species protection level has been applied for high value conservation systems. This approach is *generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. It is proposed that the laboratory LOR is adopted for the purposes of preliminary screening of analytical water results, rather than sole use of the criteria value.* *All groundwater and surface water results were screened against these criteria.*
		PFOA	19 µg/L	

6.0 Contextual and Ancillary Information

6.1 PFAS Projects

During the DSI (AECOM,2019), surface water was identified as the primary migration pathway for PFAS leaving the Site. AECOM subsequently completed a limited PFAS surface water mass flux assessment at one location (SW034) on the North West boundary of the Site (AECOM, 2024f).

The assessment was undertaken to quantify of the mass of PFAS migrating from the northern Site boundary in surface water and involved installation of a flow telemetry station and autosampler at SW034 and collection of surface water samples during six flow events that occurred in April 2024 and May 2024. Note that SW034 was considered a key location, given it is located downstream of identified on-site source areas, including the Former Cantonment Fire Station.

The study estimated that an average of 35 g of PFAS is discharged annually at the Site boundary, noting that the data was collected over a limited timeframe (two months) and did not account for seasonal variation. Given the estimated volume of water leaving the Site during the events (greater than 18.4 ML), AECOM considers that the average of 35 g of PFAS discharging annually is relatively low. The results are provided in **Table T6** (in **Appendix B**).

AECOM also completed limited soil sampling of the footprint of former Cantonment Fire Station in the northern portion of the Site (AECOM, 2024e). The purpose was to evaluate the significance of PFAS impacts at the former Cantonment Fire Station (including areas that were previously inaccessible prior to demolition in 2022) and assess whether they are likely to be a significant contributor to PFAS concentrations identified in surface water at the northern Site boundary.

The findings of this investigation demonstrated that the identified PFAS impacts in surface soils at the former Cantonment Fire Station present a low risk to human and/or ecological receptors and are unlikely to be a significant contributor to PFAS concentrations identified in surface water at the northern Site boundary.

6.2 Infrastructure Projects

The former workshop at the old DNSDC facility has been demolished as part of the Mid Term Refresh project, however the foundations of the workshop still remain in place. There are some ongoing works in this area relating to the installation of freshwater pipes as a part of a larger Site wide project.

The Mid Term Refresh project also replaced some 50 isolation valves at various points across the Site, and relined damaged pipework. There is also an ongoing program to replace the Site's fresh water reticulation system and upgrades to the fire water lines within the cantonment. Reports detailing these works have not yet been provided for review.

6.3 Significant Weather Events

The rainfall activity recorded during the two sampling events completed within the monitoring period and the occurrence of wet weather events (days with rainfall > 15 mm) recorded during the monitoring period (July 2023 to June 2024) are provided in **Table 6**. There was no rainfall recorded during the two sampling events, while there were nine wet weather events in total, with a maximum single day rainfall during the monitoring period of 23 mm recorded on 21 February 2024.The data is from the BoM monitoring station located at Singleton Military Defence Area (Station ID 061430).

Figure 1 below presents the data for the monitoring period against historical ranges on record since the weather station began operation in 2017.

Figure 1 Recorded Rainfall (July 2023 to June 2024) Against Historic Average

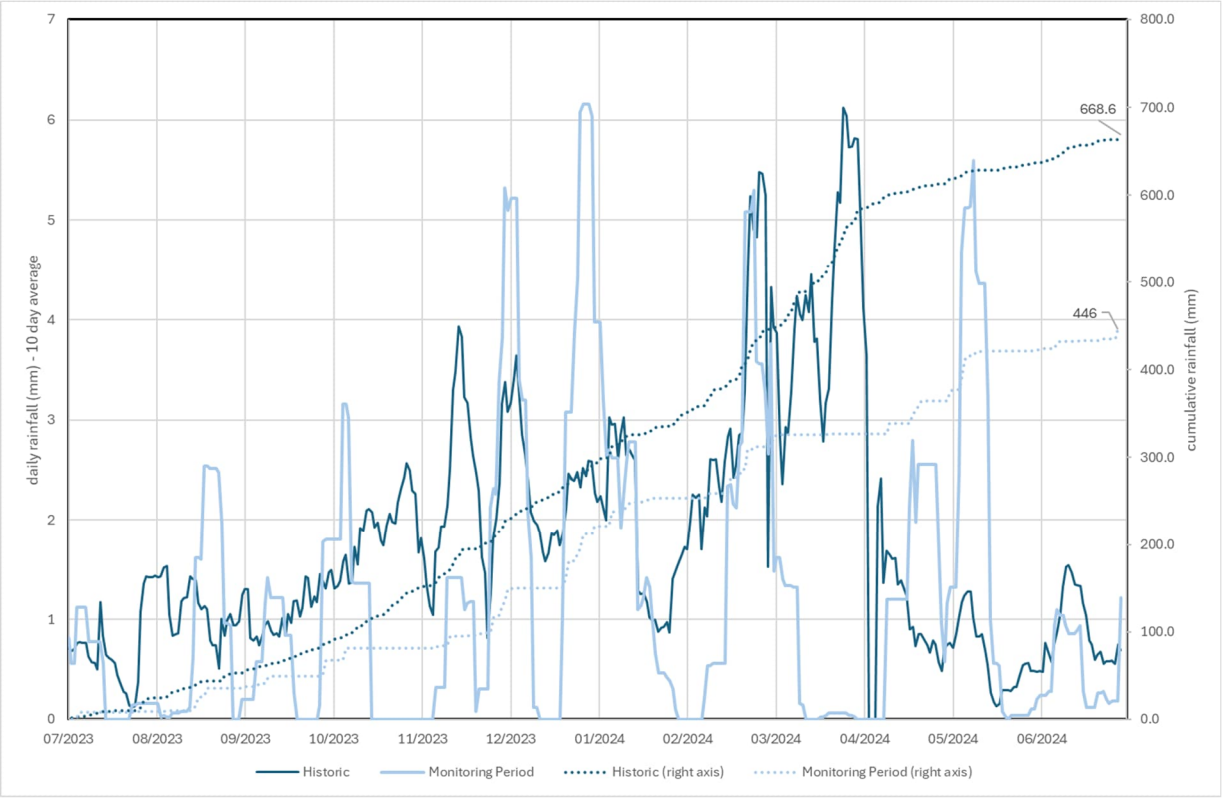

Table 6 Rainfall during Monitoring Period

Sampling Event and Date	Recorded rainfall (mm) (BoM, 2024) during sampling event	Wet weather events prior to the sampling event(days with rainfall >15 mm)
July 2023 (Annual Sampling) (17-19 July 2023)	0	1 wet weather event in 3 months prior to the sampling event, 25.2 mm on 30/04/2023.
October 2023 (Unscheduled Sampling) (25 October 2023)	0	1 wet weather event in 3 months prior to the sampling event, 16.4 mm on 29/09/2023.
January 2024 (Biannual Sampling) (23-24 January 2024)	0	4 wet weather events in 3 months prior to the sampling event, the most recent being 17.2 mm on 5/01/2024.

As noted in **Table 1** in **Section 2.1** the annual rainfall (of 446 mm) at the Site was lower than average rainfall per annum (669 mm), and lower than the rainfall recorded during the previous monitoring period (1154.2 mm). The lower than the average rainfall was recorded between October 2023 through to December 2023, and again in February to March 2024. This trend is presented by the cumulative rainfall lines on **Figure 1** above.

The monitoring events occurred outside rainfall events, with the nearest a sampling event occurring to a rainfall event of > 15mm was in the January 2024 Biannual Sampling event, with the rainfall occurring 18 days prior to sampling.

7.0 Monitoring Data Summary

As part of the OMP, the following two scheduled monitoring events were completed during the monitoring period:

- July 2023 (17 to 19 July 2023) (AECOM, 2024a).
- January 2024 (23 to 24 January 2024) (AECOM, 2024c).

The sample locations are shown on **Figure F2** to **Figure F4** (in **Appendix A**) and results are summarised in the following sections and on **Figure F5** to **Figure F16** (in **Appendix A**).

Groundwater elevations for the shallow and deep aquifer are shown on **Figure F17** and **Figure F18**, respectively (in **Appendix A**).

The monitoring and analytical results are provided in **Table T1** to **Table T7** (in **Appendix B**).

In addition to the OMP data, AECOM also considered the historical data for the Site and off-site areas that are available in the Defence database.

Note that no notable estate works, or training activities were observed in the vicinity of the sampling locations during the two sampling events.

7.1 Groundwater Results

7.1.1 Groundwater Field Observations

Groundwater monitoring well condition and field observations at the locations visited are provided in **Table T1** and **Table T2** (in **Appendix B**) and are summarised below:

July 2023

- The wells were noted to be in good condition, with the exception of MW188D, which had a damaged monument, with both casing and monument snapped off at ground level. While it was noted that the integrity of the monitoring well could have been compromised given the potential for surface water ingress, PFAS concentrations were found to be consistent with the July 2022 results (when the well was noted to be in good condition).
- Medium to high turbidity was observed in monitoring wells; MW110, MW114, MW118, MW121, MW124, MW126 and MW188D.
- An organic odour was noted at MW187D.

October 2023 (MW126 and MW056 resampling)

- The wells were noted to be in good condition. No odour, sheen or staining observed in either location.

January 2024

- The wells were noted to be in good condition.
- Medium turbidity was observed in monitoring wells MW109 and MW126.
- An organic odour was noted at MW109.

7.1.2 Groundwater Elevations

The standing water level (SWL) was measured in all monitoring wells, prior to sampling and during targeted gauging rounds conducted during each monitoring event, to evaluate Groundwater Elevation (GWE). The SWL and GWE from the July 2023 and January 2024 events are presented in **Table T1** in **Appendix B** and summarised by area in **Table 7** and **Table 8** below, for the shallow and deep aquifers, respectively.

Table 7 Summary of groundwater elevations: shallow aquifer

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
On-site – DNSDC (MW048, MW052)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – Helicopter Landing Ground (MW059)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – Dochra Airfield (MW073)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – Northern Boundary (MW104, MW110, MW115, MW118)					
July 2023	4	12.760 (MW104)	17.750 (MW118)	31.905 (MW110)	34.970 (MW118)
January 2024	2	12.315 (MW104)	13.400 (MW110)	32.000 (MW110)	34.405 (MW104)
Off-site – Northern Boundary (MW126, MW128, MW188S)					
July 2023	3	9.385 (MW188S)	11.175 (MW128)	31.705 (MW126)	32.905 (MW128)
January 2024	1	10.820 (MW126)		31.960 (MW126)	
Off-site – North (MW056, MW121, MW124, MW129*, MW139, MW187S)**					
July 2023	4	5.240 (MW056)	8.755 (MW187S)	29.470 (MW056)	32.325 (MW121)
January 2024	1	5.685 (MW056)		29.025 (MW056)	

Note: mAHD = metres relative to Australian Height Datum, mbTOC = metres below Top of Casing
Min = Minimum, Max = Maximum
* MW129 was not accessed, appointment not confirmed.
** No SWL data available for MW139, given it's a private bore with a tap outlet (not a monitoring well).

Table 8 Summary of groundwater elevations: deep aquifer

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
On-site - Former Cantonment Fire Station and FTP (MW008, MW011, MW012, MW167)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – DNSDC (MW049, MW050)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – Dochra Airfield (MW063, MW071)					
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period					
On-site – Northern Boundary (MW102, MW109, MW114)					
July 2023	3	12.910 (MW102)	13.815 (MW114)	32.085 (MW114)	33.910 (MW102)
January 2024	2	12.920 (MW109)	12.930 (MW102)	32.180 (MW109)	33.890 (MW102)
Off-site – North (MW187D)					
July 2023	1	8.465 (MW187D)		31.765 (MW187D)	
Off-site – Northern Boundary (MW188D)					
July 2023	1	9.230 (MW188D)		32.020 (MW188D)	

Note: mAHD = metres relative to Australian Height datum, mbTOC = metres below Top of Casing
Min = Minimum, Max = Maximum

It is noted that although the wells target discrete aquifers, based on SWLs the hydraulic heads appear to be similar between deep and shallow, suggesting that there may be some seeping occurring between the shale and the shallow soil profiles, these are further supported by the geochemical parameters (refer to **Section 7.1.4**) which do not show significant variability between shallow and deep.

7.1.3 Groundwater Flow Direction

Based on the SWL and survey data collected during the targeted gauging round on 19 July 2023, the interpreted potentiometric contours indicate that the inferred local groundwater flow direction within the shallow and deep aquifers is towards the North/North East, which is consistent with the DSI (AECOM, 2019) findings.

The interpreted potentiometric contours for July 2023 monitoring event are presented on **Figure F17** and **Figure F18** in **Appendix A**, for the shallow and deep wells, respectively.

7.1.4 Groundwater Quality Parameters

Groundwater quality parameters were measured during the collection of groundwater samples.

The stabilised readings of groundwater quality parameters from July 2023 and January 2024 are presented in **Table T2** in **Appendix B** and summarised below in **Table 9** (shallow aquifer) and **Table 10** (deep aquifer) for locations within each area. The readings indicate:

- Generally, well oxygenated conditions, with lower oxygen conditions in the deep aquifer.
- Fresh to saline groundwater conditions in the shallow aquifer and saline groundwater in the deep aquifer.
- Acidic to neutral conditions in the shallow aquifer and slightly acidic to slightly alkaline conditions in the deep aquifer.
- Slightly oxidising conditions in all wells.

Table 9 Summary of groundwater quality parameters: shallow aquifer

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Oxidation-Reduction Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
On-site - DNSDC (MW048, MW052)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site - Helicopter Landing Ground (MW059)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site – Dochra Airfield (MW073)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site – Northern Boundary (MW104, MW110, MW115, MW1118)										
July 2023	3.05 (MW110)	5.23 (MW118)	19.4 (MW118)	20.5 (MW115)	7,839 (MW115)	15,241 (MW118)	6.28 (MW118)	7.19 (MW110)	172.2 (MW110)	270.5 (MW118)
January 2024	0.98 (MW110)		26.0 (MW110)		20,634 (MW110)		6.89 (MW110)		245.8 (MW110)	
Off-site – Northern Boundary (MW126, MW128, MW188S)										
July 2023	4.19 (MW188S)	7.00 (MW126)	17.9 (MW188S)	20.2 (MW128)	1,086 (MW126)	10,215 (MW188S)	6.47 (MW126)	7.20 (MW128)	201.2 (MW188S)	336.6 (MW126)
January 2024	2.10 (MW126)		25.1 (MW126)		5,556 (MW126)		6.98 (MW126)		259.7 (MW126)	
Off-site – North (MW056, MW121, MW124, MW129, MW132, MW139, MW187S)										
July 2023	2.21 (MW121)	10.37 (MW139)	12.9 (MW139)	19.0 (multiple)	754.00 (MW121)	14,855 (MW187S)	6.59 (MW139)	7.23 (MW056)	89.0 (MW121)	344.0 (MW139)
January 2024	2.78 (MW056)		20.3 (MW056)		3,281 (MW056)		7.13 (MW056)		312.5 (MW056)	

Table 10 Summary of groundwater quality parameters: deep aquifer

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Oxidation-Reduction Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
On-site - Former Cantonment Fire Station and FTP (MW008, MW011, MW012, MW167)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site – DNSDC (MW050)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site – Dochra Airfield (MW063, MW071)										
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site – Northern Boundary (MW102, MW109, MW114)										
July 2023	1.03 (MW102)	8.38 (MW109)	19.2 (MW102)	21.0 (MW109)	5,947 (MW114)	19,965 (MW102)	6.72 (MW102)	6.98 (MW114)	55.7 (MW114)	131.4 (MW102)
January 2024	0.57 (MW109)	0.98 (MW102)	22.4 (MW109)	24.0 (MW102)	18,983 (MW109)	23,379 (MW102)	6.56 (MW102)	6.75 (MW109)	85.5 (MW102)	93.5 (MW109)
Off-site – North Boundary (MW188D)										
July 2023	0.94 (MW188D)		19.4 (MW188D)		8,801 (MW188D)		8.78 (MW188D)		23.3 (MW188D))	
Off-site – North (MW187D)										
July 2023	2.16 (MW187D)		16.4 (MW187D)		11,685 (MW187D)		7.05 (MW187D)		322.6 (MW187D)	

7.1.5 Groundwater Analytical Results

Groundwater analytical results from the monitoring period as well as available historical groundwater analytical results for OMP sampling locations (including data from other projects) are presented in **Table T5** (in **Appendix B**). Groundwater results from July 2023 and January 2024 are presented spatially on **Figure F5** to **Figure F8** (in **Appendix A**).

The monitoring activities are summarised in the reports provided in **Appendix E**. The interpretive assessment of the groundwater analytical results is discussed in **Section 8.1.1** and **Section 8.1.2**.

Groundwater wells MW126 and MW056 we resampled in October 2023 to confirm the concentrations of PFAS which were elevated above historical range in July 2023. The data for both these events at these locations has been discussed in the following sections.

Additionally, historical groundwater concentrations of PFOS+PFHxS and PFOA have been displayed graphically on temporal trend graphs presented in **Appendix C**, grouped by PFAS source area and areas of interest (off-site locations) for the locations shown in **Table 11** below.

Table 11 Temporal trend graphs of groundwater locations

Graph ID	Source Areas and Areas of Interest	Screened aquifer	Groundwater locations
G01	On-site - Northern Boundary	Shallow	MW104#, MW110, MW115, MW118
		Deep	MW102, MW109, MW114
G02	Off-site - Northern Boundary	Shallow	MW126, MW128, MW188S
		Deep	MW188D
G03, G04	Off-site - North	Shallow	MW056, MW121, MW124, MW129#, MW132#, MW139*, MW187S
		Deep	MW187D

Notes:

Shaded locations/areas were not monitored during this monitoring period. Areas included for reference purposes.

* Private bore, sample collected from tap outlet. The depth of the bore is unknown.

Location part of grouping, however, not scheduled for sampling during the monitoring period.

A summary of groundwater results from the monitoring period is provided in **Table 12** (shallow aquifer) and **Table 13** (deep aquifer) for locations within each area. Deviations from the historical dataset for groundwater are summarised in **Table 14** to **Table 18**.

Table 12 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in groundwater – shallow aquifer

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
On-site - DNSDC (MW048, MW052)						
Locations scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site - Helicopter Landing Ground (MW059)						
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site – Dochra Airfield (MW073)						
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site – Northern Boundary (MW104, MW110, MW115, MW1118)						
July 2023	3 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple)	0	NA	0
		PFOS+PFHxS	<LOR (multiple)	0	0	NA
January 2024	1 Primary	PFOA	<LOR (MW110)	0	0	0
		PFOS	<LOR (MW110)	0	NA	0
		PFOS+PFHxS	<LOR (MW110)	0	0	NA
Off-site – Northern Boundary (MW126, MW128, MW188S)						
July 2023*	3 Primary	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple) to 0.22 µg/L (MW126)	1	NA	1
		PFOS+PFHxS	<LOR (multiple) to 0.24 µg/L (MW126)	1	1	NA
October 2023 (*MW126 resample only*)	2 Primary (1 x QA/QC)	PFOA	<LOR	0	0	0
		PFOS	<LOR – 0.01 µg/L	2	NA	2
		PFOS+PFHxS	0.02 – 0.03 µg/L	3	0	NA
	1 Primary	PFOA	<LOR (MW126)	0	0	0

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
January 2024**		PFOS	<LOR (MW126)	0	NA	0
		PFOS+PFHxS	0.02 µg/L(MW126)	1	0	NA
Off-site – North (MW056, MW121, MW124, MW129*, MW132***, MW139, MW187S)**						
July 2023*	5 Primary	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple) to 0.12 µg/L (MW056)	2	NA	2
		PFOS+PFHxS	<LOR (multiple) to 0.16 µg/L (MW056)	3	0	NA
October 2023 (*MW056 resample only*)	2 Primary (1 x QA/QC)	PFOA	<LOR	0	0	0
		PFOS	0.06 µg/L – 0.1 µg/L	3	NA	3
		PFOS+PFHxS	0.1 µg/L – 0.13 µg/L	3	3	NA
January 2024**	1 Primary	PFOA	<LOR (MW056)	0	0	0
		PFOS	0.08 µg/L(MW056)	1	NA	1
		PFOS+PFHxS	0.1 µg/L(MW056)	1	0	NA

Notes:

* MW056 and MW126 were resampled in October 2023 to confirm the results reported in July 2023.

** The locations in the groups “Off-site – Northern Boundary” and “Off-site – North” are not scheduled to be sampled in January 2024, however MW056 and MW126 were sampled at the request of Defence and the NSW EPA to confirm previous results.

***Locations were inaccessible during the monitoring period

[1] = Sample counts include intra-laboratory and inter-laboratory duplicates

multiple = the value applies to multiple locations

NA = Not applicable

Table 13 Summary of PFOA, PFOS and PFOS+PFHxS Concentrations in Groundwater: deep aquifer

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
On-site - Former Cantonment Fire Station and FTP (MW008, MW011, MW012, MW167)						
Locations scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site – DNSDC (MW050)						
Location scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site – Dochra Airfield (MW063, MW071)						
Locations scheduled on a biennial frequency, therefore not sampled during this monitoring period						
On-site – Northern Boundary (MW102, MW109, MW114)						
July 2023	3 Primary	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple)	0	NA	0
		PFOS+PFHxS	<LOR (multiple)	0	0	NA
January 2024	2 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple) to 0.05 µg/L (MW109)	2	NA	2
		PFOS+PFHxS	<LOR (multiple) to 0.11 µg/L (MW109)	2	0	NA
Off-site – Northern Boundary (MW188D)						
July 2023	1 Primary	PFOA	<LOR (MW188D)	0	0	0
		PFOS	0.03 µg/L(MW188D)	1	NA	1
		PFOS+PFHxS	0.03 µg/L(MW188D)	1	0	NA
Off-site – North (MW187D)						
July 2023	1 Primary	PFOA	<LOR (MW187D)	0	0	0
		PFOS	<LOR (MW187D)	0	NA	0
		PFOS+PFHxS	<LOR (MW187D)	0	0	NA

Notes: multiple = the value applies to multiple locations. NA = Not applicable

The first-time detections of PFOS, PFOS+PFHxS and/or PFOA during the monitoring period are presented in **Table 14**.

Table 14 Groundwater Results - First-time Detections of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site – Northern Boundary	MW126	PFOS (0.22 µg/L)

The new exceedances of drinking water guidelines and ecological (freshwater 99%) guidelines reported during the monitoring period are presented in **Table 15** and **Table 16**, respectively.

Table 15 Groundwater Results – New Exceedances (drinking water) of PFOS, PFHxS, and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site – North	MW056	PFOS+PFHxS (0.16 µg/L)
July 2023	Off-site – Northern Boundary	MW126	PFOS+PFHxS (0.24 µg/L)

Table 16 Groundwater Results – New Exceedances (Freshwater 99%) of PFOS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site – Northern Boundary	MW126	PFOS (0.22 µg/L)

The new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 17**.

Table 17 Groundwater Results – New Maximum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site – North	MW056	PFOS (0.12 µg/L)
		MW056	PFOS+PFHxS (0.16 µg/L)
	Off-site – Northern Boundary	MW126	PFOS (0.22 µg/L)
		MW126	PFOS+PFHxS (0.24 µg/L)
		MW188D	PFOS (0.03 µg/L)
		MW188D	PFOS+PFHxS (0.03 µg/L)

The new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 18**.

Table 18 Groundwater Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site – North	MW139	PFOS+PFHxS (0.02 µg/L)
		MW139	PFOS (0.02 µg/L)

7.2 Surface Water and Wastewater Results

7.2.1 Surface Water and Wastewater Field Observations

Surface water and wastewater field observations from the monitoring period are presented in **Table T3** in **Appendix B** and summarised below.

July 2023

- Surface water and wastewater were observed to contain no turbidity to medium turbidity. The water at SW553 was observed to be green in colour.

- Organic odours were noted at SW553 and OTH006 (wastewater). No other odours were noted at the locations sampled.
- Sheen was observed at SW002, SW032, SW040, SW553 and SW555.
- Flow was observed at SW034, SW040 and SW065, as well as at wastewater sampling location OTH006. No water flow was observed at the remaining surface water sample locations visited.

January 2024

- Surface water and wastewater were observed to contain no turbidity to medium turbidity, however high turbidity was observed at SW036. Water at wastewater sampling location OTH006 was observed to be white/cloudy with medium turbidity.
- Organic odours were noted at SW036, SW064 and OTH006. No other odours were observed at the locations sampled.
- Sheen was observed at SW002.
- An algal bloom was observed at SW002.
- Flow was observed at wastewater sampling location OTH006. No water flow was observed at the surface water sample locations visited.

7.2.2 Surface Water Quality Parameters

Surface water quality parameters were measured during the collection of surface water samples. The surface water quality parameters from July 2023 and January 2024 events are presented in **Table T3** in **Appendix B** and summarised below in **Table 19** for locations within each sub-catchment.

Table 19 Summary of surface water quality parameters

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Oxidation-Reduction Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
On-site - Sub-catchment A (SW002, SW003, SW026, SW032, SW034, SW114*)										
July 2023	2.45 (SW002)	12.08 (SW003)	14.9 (SW032)	16.9 (SW026)	298.20 (SW026)	2,302 (SW034)	6.85 (SW002)	7.59 (SW003)	170.9 (SW002)	352.1 (SW026)
January 2024	0.54 (SW002)	4.54 (SW032)	24.3 (SW002)	25.5 (SW032)	53.50 (SW032)	386.50 (SW026)	6.31 (SW002)	9.06 (SW026)	75.1 (SW002)	326.2 (SW032)
On-site - Sub-catchment B (SW028 and SW555)										
July 2023	5.34 (SW555)	6.79 (SW028)	12.1 (SW028)	14.3 (SW555)	291.60 (SW028)	1,655 (SW555)	6.54 (SW028)	7.16 (SW555)	338.7 (SW028)	362.5 (SW555)
January 2024	1.23 (SW028)	2.72 (SW555)	23.6 (SW555)	24.7 (SW028)	125.30 (SW028)	926.00 (SW555)	6.04 (SW028)	7.56 (SW555)	196.9 (SW555)	360.6 (SW028)
On-site - Sub-catchment C (SW040)										
July 2023	9.12 (SW040)	9.12 (SW040)	17.5 (SW040)	17.5 (SW040)	2,615 (SW040)	2,615 (SW040)	7.25 (SW040)	7.25 (SW040)	338.7 (SW040)	338.7 (SW040)
January 2024	3.81 (SW040)	3.81 (SW040)	26.4 (SW040)	26.4 (SW040)	3,540 (SW040)	3,540 (SW040)	7.25 (SW040)	7.25 (SW040)	345.1 (SW040)	345.1 (SW040)
On-site – Boundary (SW115 and SW116)										
Locations scheduled on a biennial frequency, therefore not sampled during this monitoring period										
On-site Dochra Airfield (SW004 and SW005)										
July 2023	5.19 (SW004)	5.52 (SW005)	13.4 (SW005)	18.9 (SW004)	283.60 (SW004)	4,812 (SW005)	7.09 (SW005)	7.33 (SW004)	176.4 (SW005)	281.0 (SW004)

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Oxidation-Reduction Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Off-site North East (SW039 and SW064) & Singleton STP (SW065, SW553, SW554, SW563, OTH006)										
July 2023	4.10 (SW064)	9.89 (SW563)	12.5 (SW039)	17.8 (SW553)	584.00 (SW563)	2,956 (SW065)	7.10 (SW039)	7.98 (SW563)	208.6 (SW563)	333.3 (SW039)
January 2024	2.60 (SW039)	5.24 (SW563)	24.8 (SW039)	33.3 (SW065)	641.00 (SW563)	881.00 (SW039)	7.52 (SW064)	9.37 (SW563)	277.8 (SW039)	341.1 (SW064)
Off-site North West (SW035 and SW036)										
July 2023	4.61 (SW035)	4.82 (SW036)	18.5 (SW036)	20.5 (SW035)	311.50 (SW036)	1,142 (SW035)	6.63 (SW036)	7.21 (SW035)	238.7 (SW035)	321.0 (SW036)
January 2024	5.34 (SW035)	7.54 (SW036)	27.5 (SW035)	28.3 (SW036)	647.00 (SW036)	1,584 (SW035)	7.11 (SW035)	8.33 (SW036)	247.6 (SW036)	306.9 (SW035)

The readings presented in **Table 19** indicate:

- Well oxygenated to poorly oxygenated conditions.
- Fresh to brackish water conditions.
- Moderately acidic to slightly alkaline conditions.
- Temperature ranges were considered consistent with background conditions for the time of year of the sampling being conducted in each event.

7.2.3 Surface Water and Wastewater Analytical Results

Surface water and wastewater analytical results from the monitoring period as well as the available historical surface water and wastewater analytical results for OMP sampling locations (including data from other projects) are presented in **Table T6** in **Appendix B**. Surface water and wastewater results from July 2023 and January 2024 are presented spatially on **Figure F9** to **Figure F12** in **Appendix A**. The monitoring activities are summarised in the OMP Sampling Event Reports provided in **Appendix E**. The interpretive assessment of the surface water analytical results is discussed in **Section 8.1.2.2** and **Section 8.2.2**.

Additionally, historical surface water and wastewater concentrations of PFOS+PFHxS and PFOA have been displayed graphically on temporal trend graphs presented in **Appendix C**, grouped by sub-catchment/area of interest for the locations shown in **Table 20**, below.

Table 20 Temporal trend graphs of surface water and wastewater locations

Graph ID	Sub-catchment / Area of interest	Surface water and wastewater locations
G05, G06	On-site Sub-Catchment A	SW002, SW003, SW026, SW032, SW034, SW114[#]
G07	On-site Sub-Catchment B	SW028, SW555
G08	On-site Dochra Airfield	SW004, SW005
G09, G10	Off-site Singleton STP & North East	SW039, SW064, SW065, SW553, SW563, OTH006
G11, G12	Off-site North West	SW035, SW036

Limited data set available to be presented

A summary of surface water and wastewater results from July 2023 and January 2024 events is provided in **Table 21** for locations by sub-catchment / area of interest. Deviations from the historical dataset for surface water are summarised in **Table 22** to **Table 26**. There were no deviations from the historical dataset for wastewater location OTH006.

Table 21 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in surface water and wastewater

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
On-site Sub-Catchment A (SW002, SW003, SW026, SW032, SW034, SW114*)						
July 2023	5 Primary, 2 QC	PFOA	<LOR (multiple) to 0.07 µg/L (SW002)	3	0	0
		PFOS	0.01 µg/L(multiple) to 2.02 µg/L (SW032)	7	NA	7
		PFOS+PFHxS	0.02 µg/L(multiple) to 3.03 µg/L (SW032)	7	2	NA
January 2024	4 Primary, 0 QC	PFOA	<LOR (multiple) to 0.04 µg/L (SW002)	2	0	0
		PFOS	0.01 µg/L(SW003) to 0.89 µg/L (SW026)	4	NA	4
		PFOS+PFHxS	0.01 µg/L(SW003) to 1.23 µg/L (SW002)	4	0	NA
On-site Sub-Catchment B (SW028, SW555)						
July 2023	2 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple)	0	NA	0
		PFOS+PFHxS	<LOR (multiple)	0	0	NA
January 2024	2 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (SW028) to 0.02 µg/L (multiple)	3	NA	3
		PFOS+PFHxS	<LOR (SW028) to 0.03 µg/L (SW555)	3	0	NA

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
On-site Sub-Catchment C (SW040)						
July 2023	1 Primary	PFOA	<LOR (SW040)	0	0	0
		PFOS	<LOR (SW040)	0	NA	0
		PFOS+PFHxS	<LOR (SW040)	0	0	NA
January 2024	1 Primary	PFOA	<LOR (SW040)	0	0	0
		PFOS	<LOR (SW040)	0	NA	0
		PFOS+PFHxS	<LOR (SW040)	0	0	NA
On-site Dochra Airfield (SW004, SW005)						
July 2023	2 Primary, 0 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple)	0	NA	0
		PFOS+PFHxS	<LOR (multiple)	0	0	NA
Off-site Singleton STP (SW065, SW553, SW563, OTH006) & North East (SW039, SW064)						
July 2023	6 Primary, 2 QC	PFOA	<LOR (multiple) to 0.01 µg/L (SW553)	1	0	0
		PFOS	<LOR (multiple) to 0.22 µg/L (SW553)	3	NA	3
		PFOS+PFHxS	<LOR (multiple) to 0.49 µg/L (SW553)	3	0	NA
January 2024	5 Primary, 0 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (SW065) to 0.12 µg/L (OTH006)	4	NA	4
		PFOS+PFHxS	<LOR (SW065) to 0.15 µg/L (OTH006)	4	0	NA

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
Off-site North West (SW035, SW036)						
July 2023	2 Primary, 0 QC	PFOA	<LOR (SW035) to 0.02 µg/L (SW036)	1	0	0
		PFOS	0.02 µg/L(SW035) to 0.58 µg/L (SW036)	2	NA	2
		PFOS+PFHxS	0.02 µg/L(SW035) to 0.95 µg/L (SW036)	2	0	NA
January 2024	2 Primary, 0 QC	PFOA	<LOR (SW035) to 0.03 µg/L (SW036)	1	0	0
		PFOS	0.02 µg/L(SW035) to 0.79 µg/L (SW036)	2	NA	2
		PFOS+PFHxS	0.04 µg/L(SW035) to 1.6 µg/L (SW036)	2	0	NA

Notes:

* = not sampled during this monitoring period

multiple = the value applies to multiple locations

NA = Not applicable

During the monitoring period, the following first-time detections of PFOS, PFOS+PFHxS and/or PFOA were reported as presented in **Table 29**.

Table 22 Surface Water and Wastewater Results - First-time Detections of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
January 2024	On-site – Sub Catchment B	SW555	PFOS (0.02 ug/L)
		SW555	PFOS+PFHxS (0.03 ug/L)
	Off-site – Singleton STP & North East	SW563	PFOS (0.01 ug/L)
		SW563	PFOS+PFHxS (0.01 ug/L)

The new exceedances of human health recreational guidelines reported during the monitoring period are presented in **Table 23**.

Table 23 Surface Water and Wastewater Results - New Exceedances (Recreational) of PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	On-site - Sub-catchment A	SW002	PFOS+PFHxS (2.2 µg/L)

The new exceedances of ecological (freshwater 99%) guidelines reported during the monitoring period are presented in **Table 24**.

Table 24 Surface Water and Wastewater Results – New Exceedances (Freshwater 99%) of PFOS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
January 2024	On-site – Sub-Catchment B	SW555	PFOS (0.02 µg/L)
	Off-site – Singleton STP & North East	SW563	PFOS (0.01 µg/L)

The new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 25**.

Table 25 Surface Water and Wastewater Results – New Maximum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	On-site - Sub-catchment A	SW002	PFOA (0.07 ug/L)
		SW002	PFOS (1.00 ug/L)
		SW002	PFOS+PFHxS (2.2 ug/L)
	Off-site - North West	SW035	PFOS (0.02 ug/L)
		SW035	PFOS+PFHxS (0.02 ug/L)
January 2024	On-site - Sub-catchment A	SW026	PFOS (0.89 ug/L)
		SW026	PFOS+PFHxS (1.21 ug/L)
	On-site – Sub-catchment B	SW555	PFOS (0.02 ug/L)
		SW555	PFOS+PFHxS (0.03 ug/L)
	Off-site - North East & Singleton STP	SW563	PFOS (0.01 ug/L)
		SW563	PFOS+PFHxS (0.01 ug/L)
	Off-site – North West	SW035	PFOS+PFHxS (0.04 ug/L)
		SW036	PFOS+PFHxS (1.60 ug/L)

The new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 26**.

Table 26 Surface Water and Wastewater Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site - North East & Singleton STP	SW065	PFOS (<LOR)
		SW065	PFOS+PFHxS (<LOR)

7.3 Sediment

7.3.1 Sediment Field Observations

The sediment observed during the monitoring period comprised mainly clays and silts (silty clay and sandy silt), with sand (silty and clayey sand) and gravels (sandy gravels) at some locations. Most sediment samples contained some organic matter in the form of grass rootlets. No anthropogenic inclusions or staining were observed. Organic odours were noted at one sediment location (SD053) in July 2023 and at four sediment locations (SD046, SD052, SD080 and SD555) in January 2024.

Sediment field observations from the monitoring period are presented in **Table T4** in **Appendix B**.

7.3.2 Sediment Analytical Results

Sediment analytical results from the monitoring period as well as the available historical sediment analytical results for OMP sampling locations (including data from other projects) are presented in **Table T7** in **Appendix B**.

The sediment results from the monitoring period are presented spatially on **Figure F13** to **Figure F16** in **Appendix A**. The monitoring activities are summarised in the OMP Sampling Event Reports provided in **Appendix E**. The interpretive assessment of the sediment analytical results is discussed in **Section 8.3.1** and **Section 8.3.2**.

Additionally, OMP and other historical PFOS+PFHxS and PFOA concentrations for sediment are displayed graphically on temporal trend graphs presented in **Appendix C**, grouped by sub-catchment/ area of interest for the locations in **Table 27**, below.

Table 27 Temporal trend graphs of sediment locations

Graph ID	Catchment /Area of interest	Sediment locations
G13, G14	On-site Sub-Catchment A	SD002, SD003, SD032, SD053, SD065, SD114
G15	On-site Sub-Catchment B	SD055, SD555
G16	On-site Sub-Catchment C	SD040
G17, G18	On-site Boundary	SD115, SD116
G19	On-site Dochra Airfield	SD004, SD005
G20, G21	Off-site Singleton STP & North East	SD039, SD046, SD047, SD539, SD563
G22	Off-site North West	SD052, SD080

A summary of sediment results from July 2023 and January 2024 events is provided in **Table 28** for locations by sub-catchment / area of interest. Deviations from the historical dataset for sediment are summarised in **Table 29** to **Table 31**.

Table 28 Summary of PFOA, PFOS and PFOS+PFHxS Concentrations in Sediment

Sampling Event	No. of Samples[1]	Compound	Concentration Range (mg/kg) in Sampling Event	No. of Samples[1] with Concentration > LOR
On-site Sub-Catchment A (SD002, SD003, SD032, SD053, SD065, SD114)				
July 2023	6 Primary, 2 QC	PFOA	<LOR (multiple)	0
		PFOS	0.0004 mg/kg (SD032) to 0.0032 mg/kg (SD003)	8
		PFOS+PFHxS	0.0004 mg/kg (SD032) to 0.0034 mg/kg (SD003)	8
January 2024	6 Primary, 2 QC	PFOA	<LOR (multiple)	0
		PFOS	0.001 mg/kg (SD003) to 0.0092 mg/kg (SD114)	8
		PFOS+PFHxS	0.001 mg/kg (SD003) to 0.0094 mg/kg (SD114)	8
On-site Sub-Catchment B (SD055, SD555)				
July 2023	2 Primary, 2 QC	PFOA	<LOR (multiple)	0
		PFOS	0.0008 mg/kg (SD055) to 0.0012 mg/kg (SD555)	4
		PFOS+PFHxS	0.0008 mg/kg (SD055) to 0.0012 mg/kg (SD555)	4
January 2024	2 Primary, 2 QC	PFOA	<LOR (multiple)	0
		PFOS	0.003 mg/kg (SD055) to 0.005 mg/kg (SD055)	4
		PFOS+PFHxS	0.003 mg/kg (SD055) to 0.005 mg/kg (SD055)	4
On-site Sub-Catchment C (SD040)				
July 2023	1 Primary	PFOA	<LOR (SD040)	0
		PFOS	<LOR (SD040)	0
		PFOS+PFHxS	<LOR (SD040)	0
January 2024	1 Primary	PFOA	<LOR (SD040)	0
		PFOS	0.0008 mg/kg (SD040)	1
		PFOS+PFHxS	0.0008 mg/kg (SD040)	1
On-site Dochra Airfield (SD004, SD005)				
July 2023	2 Primary	PFOA	<LOR (multiple)	0
		PFOS	<LOR (SD004) to 0.0009 mg/kg (SD005)	1
		PFOS+PFHxS	<LOR (SD004) to 0.0009 mg/kg (SD005)	1
January 2024	2 Primary	PFOA	<LOR (multiple)	0
		PFOS	0.0002 mg/kg (SD004) to 0.0008 mg/kg (SD005)	2
		PFOS+PFHxS	0.0002 mg/kg (SD004) to 0.0008 mg/kg (SD005)	2

Sampling Event	No. of Samples[1]	Compound	Concentration Range (mg/kg) in Sampling Event	No. of Samples[1] with Concentration > LOR
Off-site Singleton STP (SD047, SD539, SD563) & North East (SD039, SD046)				
July 2023	5 Primary	PFOA	<LOR (multiple)	0
		PFOS	<LOR (multiple) to 0.0052 mg/kg (SD539)	3
		PFOS+PFHxS	<LOR (multiple) to 0.0054 mg/kg (SD539)	3
January 2024	5 Primary	PFOA	<LOR (multiple) to 0.0002 mg/kg (multiple)	2
		PFOS	0.0014 mg/kg (SD047) to 0.0244 mg/kg (SD539)	5
		PFOS+PFHxS	0.0014 mg/kg(SD047) to 0.0297 mg/kg (SD539)	5
Off-site North West (SD052, SD080)				
July 2023	2 Primary	PFOA	<LOR (multiple)	0
		PFOS	0.0004 mg/kg (SD052) to 0.0235 mg/kg (SD080)	2
		PFOS+PFHxS	0.0004 mg/kg (SD052) to 0.0253 mg/kg (SD080)	2
January 2024	2 Primary	PFOA	<LOR (multiple)	0
		PFOS	0.0004 mg/kg (SD052) to 0.0045 mg/kg (SD080)	2
		PFOS+PFHxS	0.0004 mg/kg (SD052) to 0.0048 mg/kg (SD080)	2

Notes:

1 = Sample counts include intra-laboratory and inter-laboratory duplicates

multiple = the value applies to more than one location

NA = Not applicable

During the monitoring period, the following first-time detections of PFOS, PFOS+PFHxS and/or PFOA were reported as presented in **Table 29**.

Table 29 Sediment Results - First-time Detections of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	Off-site - Singleton STP & North East	SD563	PFOS (0.0044 mg/kg)
		SD563	PFOS+PFHxS (0.0044 mg/kg)
January 2024	Off-site - Singleton STP & North East	SD539	PFOA (0.0002 mg/kg)
		SD563	PFOA (0.0002 mg/kg)

The new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 30**.

Table 30 Sediment Results – New Maximum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	On-site - Sub-catchment B	SD555	PFOS (0.0012 mg/kg)

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
	Off-site - North West	SD080	PFOS (0.0235 mg/kg)
		SD080	PFOS+PFHxS (0.0253 mg/kg)
January 2024	On-site - Sub-Catchment A	SD114	PFOS (0.0092 mg/kg)
		SD114	PFOS+PFHxS (0.0094 mg/kg)
	On-site - Sub-Catchment C	SD040	PFOS (0.0008 mg/kg)
		SD040	PFOS+PFHxS (0.0008 mg/kg)
	On-site Sub-Catchment B	SD555	PFOS (0.0046 mg/kg)
		SD555	PFOS+PFHxS (0.0046 mg/kg)
	On-site – Boundary	SD116	PFOS (0.0046 mg/kg)
		SD116	PFOS+PFHxS (0.0048 mg/kg)
	Off-site - Singleton STP & North East	SD539	PFOA (0.0002 mg/kg)
		SD563	PFOA (0.0002 mg/kg)
		SD539	PFOS (0.0244 mg/kg)
		SD563	PFOS (0.0168 mg/kg)
		SD539	PFOS+PFHxS (0.0297 mg/kg)
		SD563	PFOS+PFHxS (0.0168 mg/kg)
		SD046	PFOS (0.0070 mg/kg)
		SD046	PFOS+PFHxS (0.0070 mg/kg)

The new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 31**.

Table 31 Sediment Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
July 2023	On-site - Sub-Catchment A	SD032	PFOS (0.0004 mg/kg)
		SD065	PFOS (0.0005 mg/kg)
		SD114	PFOS (0.0011 mg/kg)
		SD032	PFOS+PFHxS (0.0004 mg/kg)
		SD065	PFOS+PFHxS (0.0005 mg/kg)
		SD114	PFOS+PFHxS (0.0011 mg/kg)
	On-site - Sub-catchment B	SD055	PFOS (0.0009 mg/kg)
		SD055	PFOS+PFHxS (0.0009 mg/kg)
	On-site - Boundary	SD115	PFOA (<LOR)
		SD115	PFOS (0.0226 mg/kg)
		SD115	PFOS+PFHxS (0.0239 mg/kg)
July 2023	Off-site Singleton STP & North East	SD563	PFOA (<LOR)
		SD046	PFOS (<LOR)
		SD047	PFOS (<LOR)
		SD046	PFOS+PFHxS (<LOR)
		SD047	PFOS+PFHxS (<LOR)
	Off-site North West	SD052	PFOS (0.0004 mg/kg)

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
		SD052	PFOS+PFHxS (0.0004 mg/kg)
January 2024	On-site - Boundary	SD115	PFOS (0.0114 mg/kg)
		SD115	PFOS+PFHxS (0.0126 mg/kg)

8.0 Interpretive Analysis and Discussion

8.1 Groundwater

8.1.1 Groundwater Results

The July 2023 and January 2024 groundwater results for PFOS+PFHxS and PFOA compared to assessment criteria are provided in **Figure F5** to **Figure F8** (in **Appendix A**) and presented in **Table T5** (in **Appendix B**).

Note that the locations at Former Cantonment Fire Station and FTP, DNSDC, Helicopter Landing Ground and Dochra Airfield were not sampled during this monitoring period as they were scheduled for biennial frequency (i.e. sampling every two years).

A summary of key groundwater concentration observations are provided below:

- MW188D, located to the north of the Site reported 6:2 FTS (0.16 µg/L) during the July 2023 monitoring event. While the concentrations of 6:2 FTS were about 50% lower than reported during the previous sampling event in July 2022, the source of the 6:2 FTS in the deep monitoring well is unknown. Note that the PFAS concentrations in the adjacent shallow monitoring well (MW188S were below the laboratory LOR).

  Historically, 6:2 FTS has been variably detected at concentrations above the laboratory LOR across multiple wells located on-site (including along the northern boundary), however during the July 2023 monitoring event, 6:2 FTS was only detected in MW118D.

  Additionally, historically, 6:2 FTS was detected in surface water samples from SW064 and SW553 (both located downstream of the Singleton STP). Defence will continue to monitor concentrations of PFAS (including 6:2 FTS) at this location to assess potential trends.

- The new maximum of PFOS+PFHxS reported at MW126 located to the north of the Site in July 2023 was the first-time exceedance of the human health screening criteria (drinking water) for this location, and the broader off-Site area.

  To verify the elevated PFAS results reported in July 2023, AECOM re-sampled this location in October 2023. The reported PFAS concentrations in MW126 in October 2023 were within previous historical ranges, indicating the elevated concentrations reported in July 2023 were anomalous. This was further supported by the reported PFAS results in January 2024, which reported concentrations within historical ranges.

- MW056, located to the North of the Site, was able to be sampled for the first-time since May 2019 during this monitoring period. Concentrations of PFOS+PFHxS exceeded the human health screening criteria, during both the July 2023 and January 2024 sampling events. The PFOS concentration in MW056 also exceeded the ecological assessment criteria.

  To verify the elevated concentrations reported in July 2023, AECOM resampled this location in October 2023. The reported PFAS results in October 2023 were marginally lower than those reported in July 2023, however they remained higher than historical ranges for this location. Additionally, the January 2024 sampling results at MW056 were also consistent with the resampling completed in October 2023.

  During the DSI (AECOM, 2019), MW056 was inferred to be within the footprint of the off-site groundwater plume associated with the STP, as such MW056 was included in the OMP to monitor potential changes in PFAS concentrations within the off-site plume. The MW056 data has confirmed that fluctuations in PFAS concentrations are occurring in the off-site plume, and that they are likely related to the above average rainfall recorded prior to the monitoring period.

  A comparison of the PFAS signature at MW056 to other locations on and off-site is limited, primarily due to the lower concentrations of PFOS and PFHxS reported (which are the only PFAS compounds reported at MW056). While other PFAS have been detected at various sample locations, they typically appear at lower concentrations than PFOS and PFHxS.

- The highest concentration of PFAS in groundwater was reported in MW109 during the monitoring, located on the north boundary. However, note that the on-site inferred source zone groundwater

monitoring locations were not sampled during this monitoring period, and the reported concentration at MW126 (in July 2023) was considered anomalous.

With the exception of off-site exceedances of human health assessment criteria at MW056 (which was sampled for the first time since May 2019 during this monitoring period), the remainer of results at the locations accessed and sampled for the monitoring period are generally consistent with the findings of the DSI (AECOM, 2019) in terms of extent of PFAS impacts.

8.1.2 Groundwater Temporal Trend Analysis

Temporal trend graphs and Mann Kendall analysis are presented in **Appendix C** for PFOS+PFHxS and PFOA concentrations in selected groundwater sampling locations indicative of a source area or area of interest (as presented in **Table 11** in **Section 7.1.5**).

The Mann Kendall analysis was used to assess the trends in the concentrations in groundwater, and whether they have a monotonic upward or downward trend. 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 Change'.

Trend analysis was only undertaken for areas or locations which were sampled in the monitoring period and for locations which were consistently greater than the LOR, with a minimum of four sampling rounds. The data used in this analysis was sourced from OMP events both historically and during the monitoring period for each sample location. Where sample results were less than the LOR, half the LOR[1] was adopted for the Mann Kendall analysis.

More holistically, concentration trends were also reviewed as temporal trend graphs, against 30-day average rainfall. These graphs allow for discussion of concentration trends within areas which do not meet the minimum assessment requirements of Mann Kendall analysis.

8.1.2.1 On-site - Northern Boundary – Trend Graphs

The on-site groundwater monitoring wells located along the northern boundary showed no trend (PFOS+PFHxS in MW109), where there was sufficient data to perform the Mann Kendall analysis. Note that Mann Kendall analysis was only completed for PFOS+PFHxS as PFOA concentrations were mostly < LOR. The Mann Kendall analysis details are shown in **Table 32** below.

The temporal trend graph (**Graph G01** in **Appendix C**) shows that the PFOS+PFHxS concentrations fluctuate between <LOR and near 0.1 µg/L, with no apparent trend or correlation with rainfall observed.

Table 32 Summary of Trend Analysis: On-site - Northern Boundary

Location ID	Aquifer	Analyte	Historical Range	Current Monitoring Period	Mann-Kendall Trend	
			Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW102	Deep	PFOS+PFHxS	<LOR-0.02	<LOR	Not assessed[#]	
		PFOA	<LOR	<LOR	Not assessed[#]	
MW109	Deep	PFOS+PFHxS	<LOR-0.28	<LOR-0.11	*No Trend*	*84.5%*
		PFOA	<LOR	<LOR	Not assessed[#]	
MW110	Shallow	PFOS+PFHxS	<LOR	<LOR	Not assessed[#]	
		PFOA	<LOR	<LOR	Not assessed[#]	
MW114	Deep	PFOS+PFHxS	<LOR	<LOR	Not assessed[#]	

[1] where multiple LOR thresholds were present for a sample location, the average of half the LOR values was used.

		PFOA	<LOR	<LOR	Not assessed[#]
MW115	Shallow	PFOS+PFHxS	<LOR	<LOR	Not assessed[#]
		PFOA	<LOR	<LOR	Not assessed[#]
MW118	Shallow	PFOS+PFHxS	<LOR	<LOR	Not assessed*
		PFOA	<LOR	<LOR	Not assessed*

Note:
Italics: indicate low confidence in the Mann Kendall trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.
* Insufficient sample numbers at this location to allow for statistical assessment.
# Insufficient sample results greater than LOR.

8.1.2.2 Off-site - Northern Boundary – Trend Graphs

The off-site groundwater monitoring wells located along northern boundary, showed no potential trend, where there was sufficient data to perform the Mann Kendall analysis (refer to **Table 33** below).

The temporal trend graph shows that PFOS+PFHxS concentrations remained at or within an order of magnitude of the LOR for this area. There was no apparent trend or correlation with rainfall observed based on the limited data available. The reason for the increase is unknown, however given that the concentrations returned to historic ranges, the spike in PFOS+PFHxS concentration is considered to be anomalous.

Refer to **Graph G02** for a PFOS+PFHxS temporal trend graph in **Appendix C**.

Table 33 Summary of Trend Analysis: Off-site - Northern Boundary

Location ID	Aquifer	Analyte	Historical Range	Current Monitoring Period	Mann-Kendall Trend	
			Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW126	Shallow	PFOS+PFHxS	<LOR-0.03	0.02-0.03*	*No Trend*	*50.0 %*
		PFOA	<LOR	<LOR	Not assessed#	
MW128	Shallow	PFOS+PFHxS	<LOR-0.02	<LOR	Not assessed#	
		PFOA	<LOR	<LOR	Not assessed#	
MW188S	Shallow	PFOS+PFHxS	<LOR	<LOR	Not assessed**	
		PFOA	<LOR	<LOR	Not assessed**	
MW188D	Deep	PFOS+PFHxS	<LOR-0.02	0.03	*No Trend*	*89.6 %*
		PFOA	<LOR	<LOR	Not assessed#	

Note:
Italics: indicate low confidence in the Mann Kendall trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.
* Anomalous sample result from July 2023 removed from the presented concentration range.
# Insufficient sample results greater than LOR.
** Insufficient sample numbers at this location to allow for statistical assessment.

8.1.2.3 Off-site – North – Trend Graphs

The off-site groundwater monitoring wells located to the North showed a stable or no potential trend, where there was sufficient data to perform the Mann Kendall analysis.

The PFAS concentrations for locations off-site to the North were generally within historical ranges with the exception of MW056, which reported a new maximum for PFOS+PFHxS in July 2023 and remained at the elevated concentrations during subsequent sampling in October 2023 and January 2024. It is however noted that this location had not been sampled since 2019, therefore there is limited data to assess the change in concentrations since 2019. The impact of these results on the CSM for the off-site North area is discussed in **Section 9.0**.

The temporal trend graphs show that PFOA and PFOS+PFHxS concentrations, although fluctuated they remained at or within an order of magnitude of the LOR for this area, with no observable apparent trend or correlation with rainfall observed based on the limited data available.

Refer to **Graph G03** and **Graph G04** and the relevant Mann Kendall analysis in **Appendix C**, and **Table 34** below.

Table 34 Summary of Trend Analysis: Off-site – North

Location ID	Aquifer	Analyte	Historical Range	Current Monitoring Period	Mann-Kendall Trend	
			Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW056	Shallow	*PFOS+PFHxS*	0.02-0.04	0.10-0.16	*No Trend*	*75.8%*
		PFOA	<LOR	<LOR	Not assessed#	
MW121	Shallow	PFOS+PFHxS	<LOR-0.03	<LOR	Not assessed#	
		PFOA	*<LOR-0.02*	*<LOR*	*Stable*	*75.8%*
MW124	Shallow	PFOS+PFHxS	<LOR-0.07	0.02	Not assessed*#	
		PFOA	<LOR	<LOR	Not assessed*#	
MW129	Shallow	PFOS+PFHxS	0.04	Not sampled	Not assessed*#	

		PFOA	<LOR	Not sampled	Not assessed*#	
MW132	Shallow	PFOS+PFHxS	0.02-0.06	Not sampled	Not assessed*#	
		PFOA	<LOR	Not sampled	Not assessed*#	
MW139	Shallow	PFOS+PFHxS	0.10-0.11	0.02	*Stable*	*89.6%*
		PFOA	<LOR-0.02	<LOR	*Stable*	*62.5%*
MW187S	Shallow	PFOS+PFHxS	<LOR	<LOR	Not assessed*#	
		PFOA	<LOR	<LOR	Not assessed*#	
MW187D	Deep	PFOS+PFHxS	<LOR	<LOR	Not assessed*#	
		PFOA	<LOR	<LOR	Not assessed*#	

Note:
Italics: indicate low confidence in the Mann Kendall trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.
* Insufficient sample numbers at this location to allow for statistical assessment.
# Insufficient sample results greater than LOR.

8.2 Surface Water

8.2.1 Surface Water PFAS Results

The July 2023 and January 2024 surface water results for PFOS+PFHxS and PFOA, compared to screening criteria are provided in **Figure F9** to **Figure F12** in **Appendix A**.

A summary of key surface water concentration observations is provided below:

- The concentration of PFOS+PFHxS in SW002, located in Sub-Catchment A (on-site) was a new maximum and first-time exceedance of the adopted human health assessment criteria in July 2023. The sampling location (SW002) is on-site where limited recreation use of the water bodies is undertaken, limiting the potential risk of exposure to human health. Further monitoring of the concentration of PFAS at this location will be undertaken in subsequent sampling events to assess whether a potential trend is occurring.
- The concentrations of PFOS and PFOS+PFHxS in SW026, located in Sub-Catchment A (on-site) were new maximums in January 2024.The reported concentrations were below the adopted human health assessment criteria, therefore there is no change to the risk profile for on-site receptors Further monitoring of the concentration of PFAS at this location will be undertaken in subsequent sampling events to assess whether a potential trend is occurring.
- Concentrations of PFOS, PFOS+PFHxS were detected in SW555 located in Sub-Catchment B for the first time in January 2024, constituting both new maximum concentrations and a new exceedance of the adopted ecological assessment criteria. This location was sampled for the first time in 2022. Given that the new maximum reported PFAS concentrations are consistent with historical PFAS data ranges reported across the broader Sub-Catchment B and remain within the same order of magnitude to historical ranges, this new exceedance is not considered to impact the CSM or the risk profile for the area.
- Concentrations of PFOS and PFOS+PFHxS were detected in SW563 located off-site (Singleton STP & Northeast) for the first time in January 2024, constituting a new maximum concentration and a new exceedance of the adopted ecological assessment criteria. This location was sampled for the first time in this monitoring period, therefore there is a limited data set available at this location to enable consideration of temporal trends. The reported PFAS concentrations at SW563 remain below the adopted human health recreational assessment criteria. Further monitoring of the concentration of PFAS at this location will be undertaken in subsequent sampling events to assess whether a potential trend is occurring.
- Concentrations of PFOS and PFOS+PFHxS were detected in SW035 located off-site (North West) as a new maximum in July 2023 and PFOS+PFHxS was reported as a further new maximum in

January 2024. The new reported concentrations are in the same order of magnitude to historical ranges and therefore not considered to impact the CSM or risk profile.

- Concentration of PFOS+PFHxS were detected in SW036 located off-site (North West) as a new maximum in January 2024. This result was only marginally higher than the previous maximum reported in January 2023 (within the same order of magnitude) and is likely attributed to temporal fluctuations in concentrations. This new maximum concentration therefore is not considered to impact the CSM or risk profile.

The results were consistent with the DSI (AECOM, 2020) findings and previous monitoring with the highest concentrations detected in Sub-Catchment A (close to on-site source areas), and down-gradient locations off-site to the North West, and surface water locations near the STP.

8.2.2 Surface Water Temporal Trend Analysis

Surface water temporal trend graphs for PFOS+PFHxS and PFOA concentrations are provided on **Graph G05** to **Graph G12** in **Appendix C**.

Locations with PFAS concentrations consistently below LOR were excluded from the temporal graphs. Additionally, the 30-day average daily rainfall total (in mm) has been included on the temporal trend graphs to allow for assessment of the potential for influence of rainfall on PFAS concentrations.

Note that Mann Kendall analysis was not used to assess the trends in PFAS concentrations in surface water, given that variables such as rainfall, which influence PFAS concentrations are not factored into the analysis.

Concentrations of PFAS in SW036 located off-site in Doughboy Hollow Creek have been higher than previous historical ranges since January 2023 (**Graph G11** and **G12** in **Appendix C**). Whilst PFAS concentrations in this monitoring period are lower than reported in January 2023, they remain above previous historical ranges.

Similarly, SW035 (**Graph G11** in **Appendix C**) also located in Doughboy Hollow Creek had previously been below LOR for PFAS, however have been detected at this location since January 2023.

The increase in concentrations are likely to be attributed to discharges from Site source areas draining via overland flow and/or stormwater channels to Doughboy Hollow Creek, however further monitoring is required at both of these locations to assess concentration trends.

Based on the data to date there is no discernible trend in surface water concentrations with most locations showing a fluctuating pattern and observable correlation to rainfall.

8.3 Sediment

8.3.1 Sediment PFAS Results

The July 2023 and January 2024 sediment analytical results for PFOS+PFHxS and PFOA are provided in **Figure F5** to **Figure F8** in **Appendix A**.

A summary of key sediment concentrations observations is provided below:

- Concentrations of PFOS and PFOS+PFHxS were reported for the first time in July 2023 at SD563 located off-site (Singelton STP and North East). Sediment sampling location in SD563 only commenced in the current monitoring period and further monitoring is required at this location to assess the data further.
- Concentration of PFOA were reported for the first time in July 2023 at SD539 located off-site (Singelton STP and North East). The reported result was at the detection limit (0.0002ug/L) therefore further monitoring is required to consider any impact the CSM or risk profile
- Concentrations of PFOS and PFOS+PFHxS were detected in SD114 located on-site (Sub Catchment A) as a new maximum concentration in January 2024. The reported concentrations were within the historical ranges for sediment samples in the broader Sub Catchment A and the same order of magnitude to the location specifical historical ranges. Therefore, the reported results are not considered to impact the CSM or risk profile.
- Concentrations of PFOS and PFOS+PFHxS were detected in SD040 located on-site (Sub Catchment C) as a new maximum concentration in January 2024. The reported concentrations were within the same order of magnitude to the location specifical historical ranges. Therefore, the reported results are not considered to impact the CSM or risk profile.
- Concentrations of PFOS, were detected in SD555 located on-site (Sub Catchment C) as a new maximum concentration in July 2023 and a further new maximum of PFOS, PFOS+PFHxS in January 2024. Limited sampling has been completed at this location with only four events completed since 2022 including the current monitoring events. The reported results are within the same order of magnitude to the historical concentrations. Further monitoring is required at this location to consider temporal variability. The reported results are not considered to impact the CSM or risk profile.
- Concentrations of PFOS, PFOS+PFHxS were detected in SD116 located on-site (Site boundary) as a new maximum concentration in January 2024. The reported concentrations were within the same order of magnitude to the location specifical historical ranges. Therefore, the reported results are not considered to impact the CSM or risk profile.
- Concentration of key PFAS compounds were reported as new maximums in January 2024 at locations off-site (Singelton STP and North East) as follows:
  - PFOS, PFOA and PFOS+PFHxS in SD539
  - PFOS, PFOA and PFOS+PFHxS in SD563 the reported concentrations were also a first time detect for PFA at this location
  - PFOS, PFOS+PFHxS in SD046

  The reported concentrations at SD539 and SD046 remain within the same order of magnitude to historical ranges and therefore, the reported results are not considered to impact the CSM or risk profile. Sediment sampling location in SD563 only commenced in the current monitoring period and further monitoring is required at this location to assess the data further.
- New maximum concentrations of PFOS and PFOS+PFHxS were detected in SD080 located off-site (North West) in July 2023. The reported concentrations were within the same order of magnitude to the location specifical historical ranges. Subsequent monitoring in January 2024 reported concentration back with previous historical ranges Therefore, the reported results are not considered to impact the CSM or risk profile.

8.3.2 Sediment Temporal Trend Analysis

Sediment temporal trend graphs for PFOS+PFHxS and PFOA concentrations are provided on **Graph G13** to **Graph G22** in **Appendix C**.

Locations with PFAS concentrations consistently below LOR were excluded from the temporal trend graphs. Additionally, the 30-day average daily rainfall total (in mm) has been included on the temporal trend graphs to allow for assessment of the influence of rainfall on PFAS concentrations.

Note that Mann Kendall analysis was not used to assess the trends in PFAS concentrations in sediments, given that variables such as rainfall, which influence PFAS concentrations are not factored into the analysis.

Overall, based on the data to date the trend graphs indicate that concentrations in sediment fluctuate and, in some instances, appear to increase following prolonged rainfall and decrease during lower rainfall periods.

9.0 Conceptual Site Model

The PMAP (Defence, 2021) provides the CSM summarising the linkages between PFAS sources, exposure pathways and receptors.

The OMP sampling events over the monitoring period have provided additional data to further understand the changing conditions of the PFAS concentrations in groundwater, surface water and sediment. PFAS concentrations were within historical ranges and Mann Kendall trend analysis (of groundwater) indicated stable, or inconclusive trends, in addition to a probably decreasing trend.

During the monitoring period there were new maximum concentrations reported in groundwater, surface water and sediment samples and new exceedances of both human health and ecological assessment criteria in groundwater and surface water samples analysed. The majority of these samples were collected from areas which have previously identified PFAS impacts; therefore, the first-time exceedances are not ultimately unexpected and do not change the CSM.

The elevated concentrations of PFAS in off-site monitoring well MW056 were likely to be attributed to concentration fluctuations in the off-site PFAS plume associated with the Singleton STP, rather than indications of PFAS migrating from identified source areas at the Site in groundwater.

The source of the detection of 6:2 FTS at MW188D is currently unknown. Defence will continue to monitor this location to determine whether there are any trends apparent.

The first-time detection of PFAS in SW555 located outside the on-site monitoring area requires further consideration in subsequent monitoring events, given there is limited data available at this location to establish any potential temporal trends. The reported PFAS concentrations at SW555 remain below the adopted human health recreational assessment criteria.

The first-time detection of PFOS at SW563 during the January 2024 monitoring round, which was also a first-time exceedance of ecological assessment criteria, requires further monitoring to establish any potential temporal changes. Given that PFOS was detected at the laboratory LOR during a single sampling event, this does not change the current understanding of the CSM for the Site.

PFAS concentrations in sediments both on and off the Site fluctuated but remained within or the same order of magnitude of historical ranges or close to detection limits.

Overall, concentrations of PFAS within groundwater, surface water and sediment remain consistent with previous monitoring in the majority of locations sampled, with new maximum concentrations limited in magnitude compared with historical observations.

The mass flux study completed on the North West boundary of the Site reported that an average of 35 g of PFAS is discharged annually at the Site boundary with median flow rate of around 790 L/s during the mass flux monitoring events.. Additionally, surface soil sampling was completed following the demolition of the Former Cantonment Fire Station, the results indicated that the soil remaining poses a low risk to human and/or ecological receptors and are unlikely to be a significant contributor to PFAS concentrations identified in surface water at the northern Site boundary.

Overall, data presented in this report does not change the understanding of the CSM, as presented in Section 4 of the PMAP (Defence, 2021). Future monitoring will continue to contribute to an evaluation of any potential changes to the understanding of the CSM.

10.0 Risk Profile Review

The data collected during this OMP monitoring period (July 2023 to June 2024) indicates that the risk profile for human health and ecological receptors at the Site and surrounding area remains generally unchanged since the publication of the Human Health and Ecological Risk Assessment (HHERA) (AECOM, 2021). This is based on the following assessment of the OMP data:

10.1 Groundwater

There were some new maximums, and concentrations exceeding either human health or ecological guidelines, however the PFAS impacts in groundwater were generally similar to historical results. Given the exceedances of human health criteria were limited to on-site locations and associated with known source areas, and the groundwater in these areas are not used for drinking water, the exceedance does not constitute a change to the risk profile or the CSM.

It is noted that the location with the highest historical PFAS concentration (MW012 with PFOS+PFHxS at 142 µg/L in May 2019) within the on-site area of the former Cantonment Fire Station has not been sampled since 2019 as it has not been located and is suspected to have been destroyed. AECOM does not consider the lack of sampling at MW012 to constitute a significant data gap as the existing monitoring well network (MW008, MW011 and MW167) provides sufficient coverage of this area.

The new maximum PFAS concentrations in off-site monitoring well MW056 were above the adopted human health screening criteria during the monitoring period, noting that this location had not been sampled since 2019, therefore there is limited data to assess the change in concentrations since 2019. The reported concentrations of PFOS and PFHxS were below the applicable exposure point concentrations (EPCs) adopted in the HHERA (AECOM, 2021) for watering livestock for the purposes of consumption of home-grown red meat, indicating that the risk profile would not increase for this exposure pathway considered in the HHERA. Additionally, while the concentrations of PFOS+PFHxS exceeded the adopted PFAS NEMP 3.0 Human Health (Drinking Water) screening criteria, a water use survey completed by the property owner in 2023 confirmed that groundwater at the property is not used for drinking purposes. Therefore, the risk profile for off-site users of groundwater remains unchanged.

Additionally, an elevated concentration of PFAS in groundwater was reported in off-site location during the monitoring period (at MW126, with PFOS+PFHxS at 0.24 µg/L in July 2023). Although the reason for the increase is unknown, given that the concentrations returned to historical ranges during subsequent sampling in October 2023 and January 2024, the reported concentration is considered to be anomalous and therefore does not constitute a change to the risk profile or the CSM.

10.2 Surface Water and Sediment

PFAS concentrations at surface water and sediment locations were generally similar to historical results with the new maximum concentrations limited in magnitude compared with historical observations.

A new detection of PFOS+PFHxS in SW002 (in July 2023) was reported above the adopted human health recreational screening criteria. AECOM considers that this new exceedance does not change the risk profile for the Site given that the surface water drainage channels on-site are not being used for recreational purposes. The reported results at this location in subsequent sampling completed in January 2024 were back within historical ranges. Further assessment of the concentration of PFAS at this location will be undertaken in subsequent monitoring events to assess whether a potential trend is occurring.

Concentrations were highest again in Sub-Catchment A (on-site), though they remained within historical ranges during this monitoring period.

11.0 Conclusions

Groundwater, surface water and sediment sampling was completed as part of the OMP between July 2023 and June 2024. The following conclusions are based on the data collected during the monitoring period.

Overall, the concentrations of PFAS in groundwater were generally similar to previous results, with stable, no potential trends, or potentially decreasing trend. Where new maximum concentrations were reported, increases in PFAS concentrations had previously been observed, and new maximums remained within an order of magnitude of these historical maximum observations, or the risk was considered to remain unchanged in context of the HHERA (AECOM, 2021).

PFAS concentrations in surface water and sediment were generally similar to historical results. Increases and new maximum concentrations that were reported remained within an order of magnitude of historical observations for the respective locations.

The CSM was reviewed, and no changes were identified to PFAS source, pathway or receptors at the Site and surrounding areas.

Based on the data, AECOM considers that the conclusions made in the HHERA (AECOM, 2021) still apply and that the CSM and interpretive analysis supports the known risk profile as presented in the PMAP (Defence, 2021b).

Following a review of the data collected during the monitoring period, there has been no significant changes to the understanding of risks associated with PFAS at the Site and surrounding areas, the spatial distribution of PFAS and the need for monitoring of additional media.

There has been no significant increasing or decreasing trends identified to date. It is noted that some recent increases in PFAS concentrations in groundwater will continue to be monitored to ensure developing increasing trends are captured. Additionally, at some locations more results are required for trend analysis assessment, however in these instances the trend assessment relied on CSM and temporal trend graphs, which include short term rainfall data.

12.0 References

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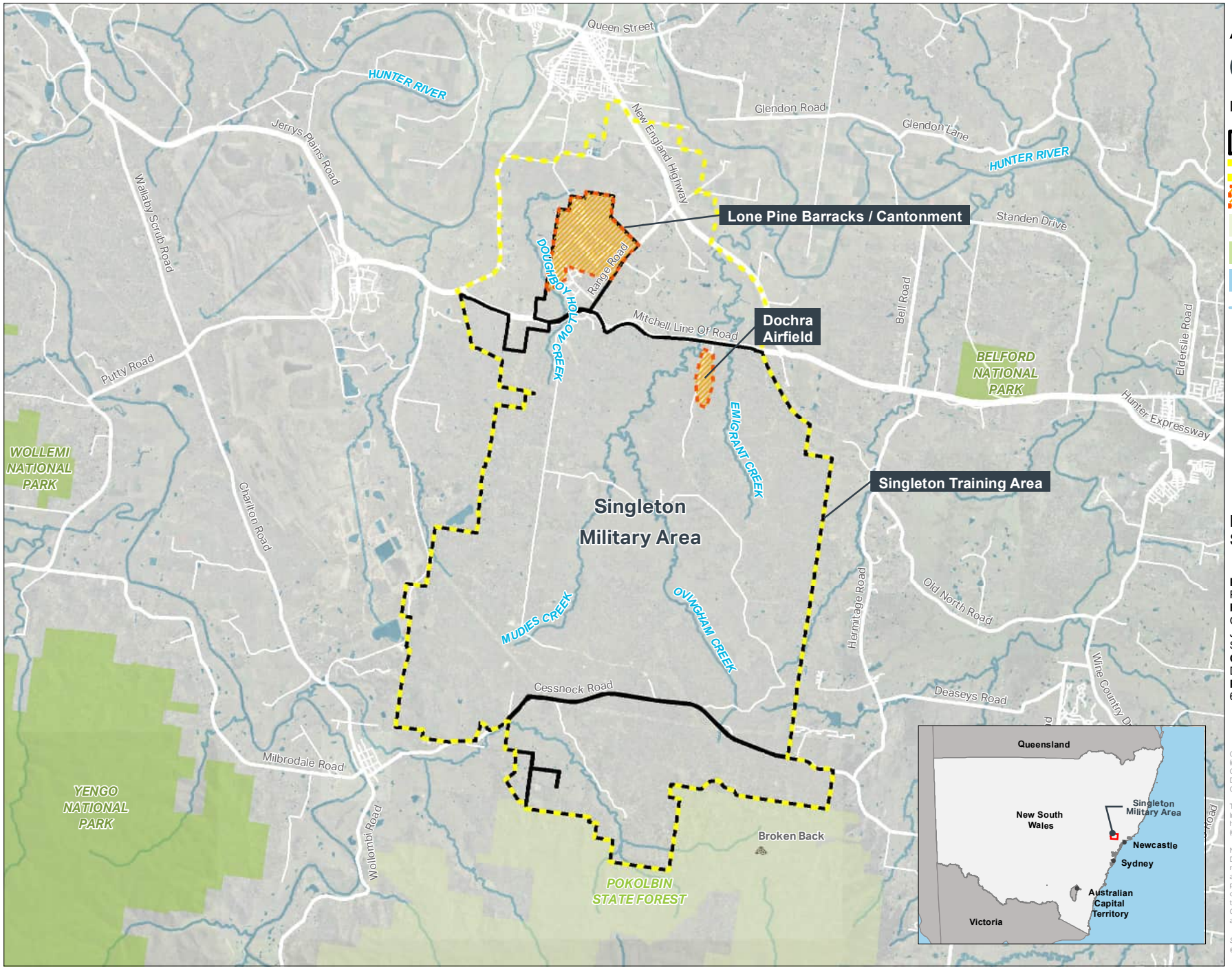
Appendix A

Figures



AECOM

N

0 1.5 3 km

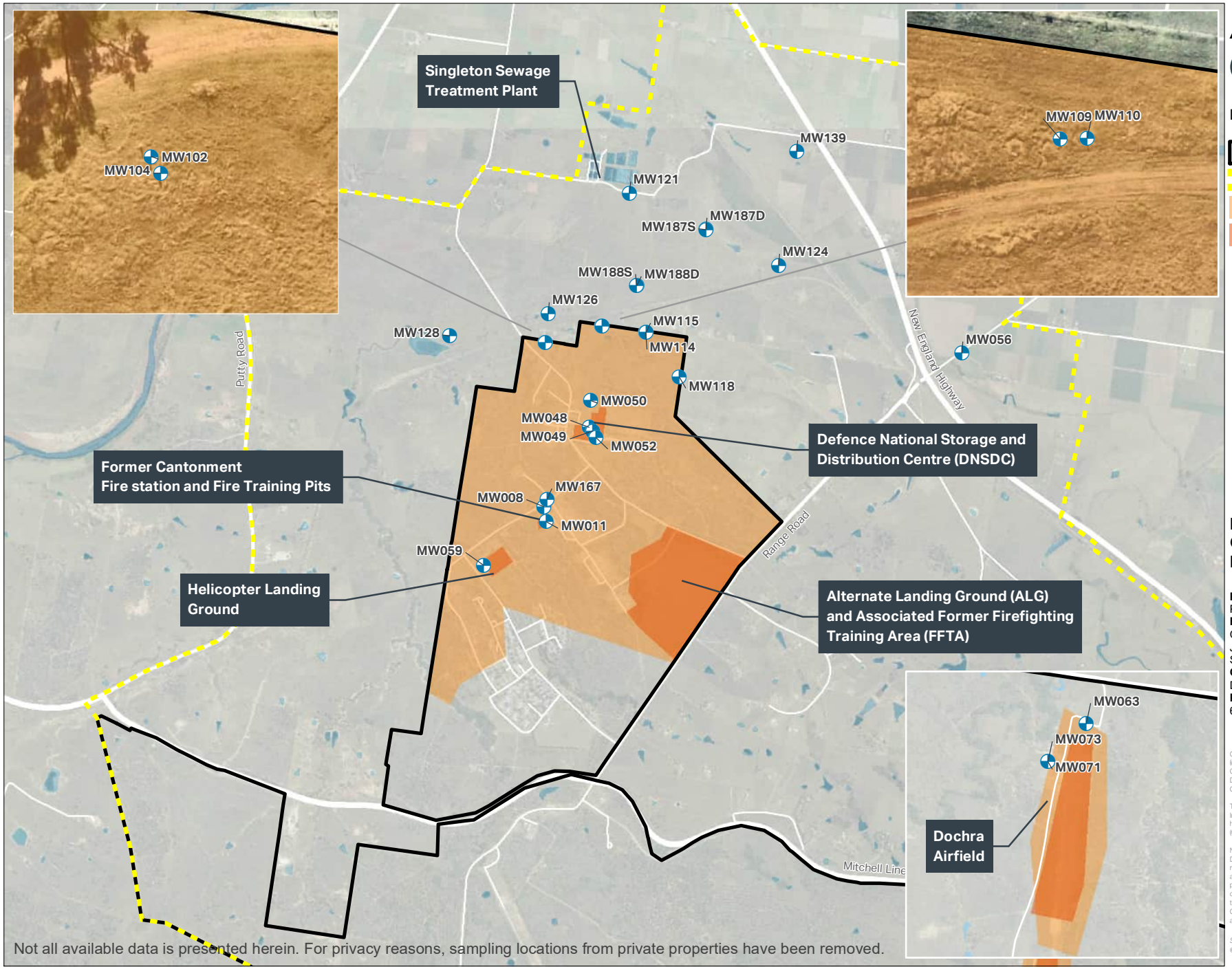
Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- State Forest
- NPWS Reserve
- Waterbody
- Watercourse

FIGURE F1:
SITE LOCATION

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
© Department of Customer Service 2020



AECOM

N

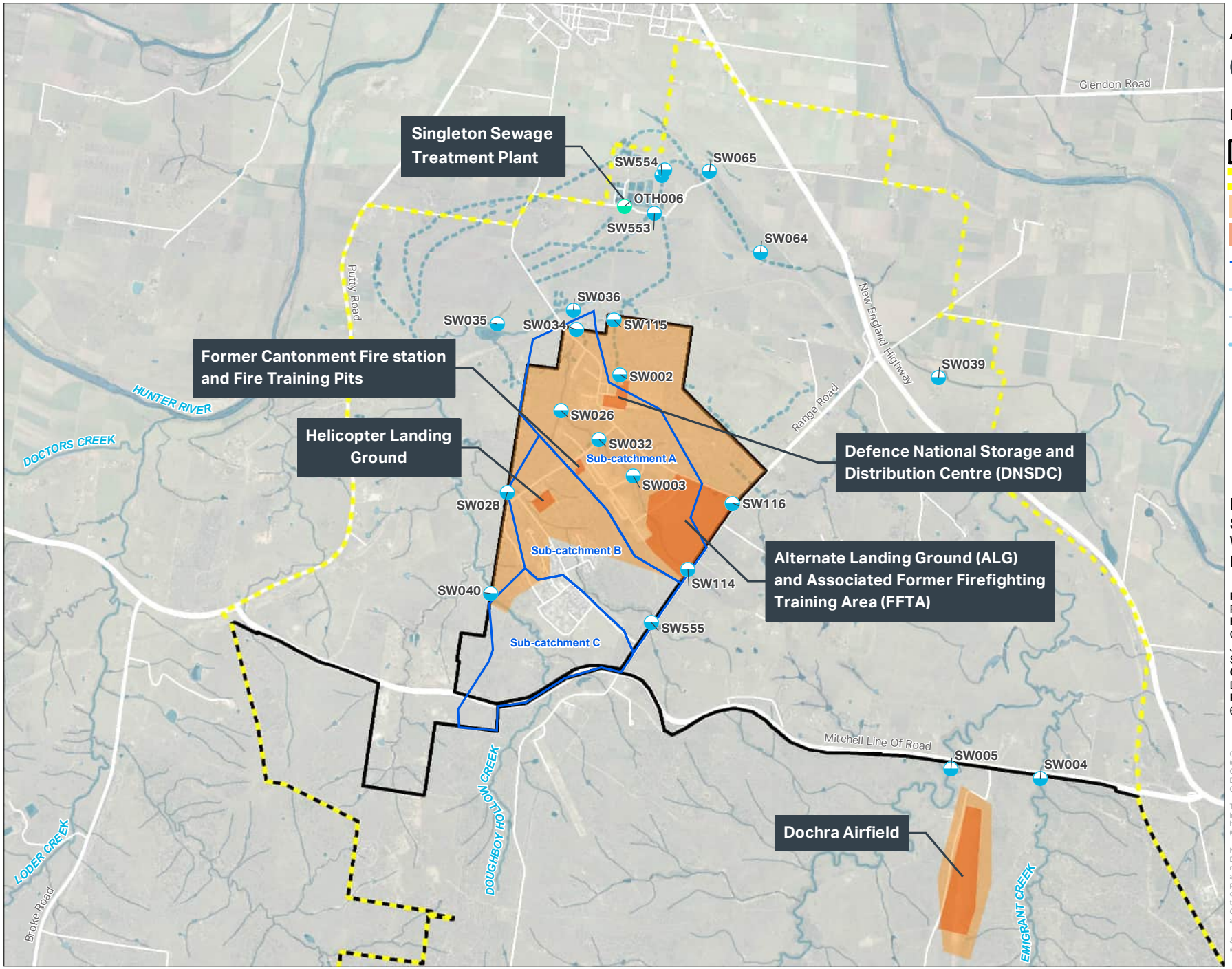
0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Groundwater Sampling Location

FIGURE F2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage Line
- Undefined Drainage Lines
- Wastewater Sampling Location
- Surface Water Sampling Location

FIGURE F3:
SURFACE WATER AND WASTEWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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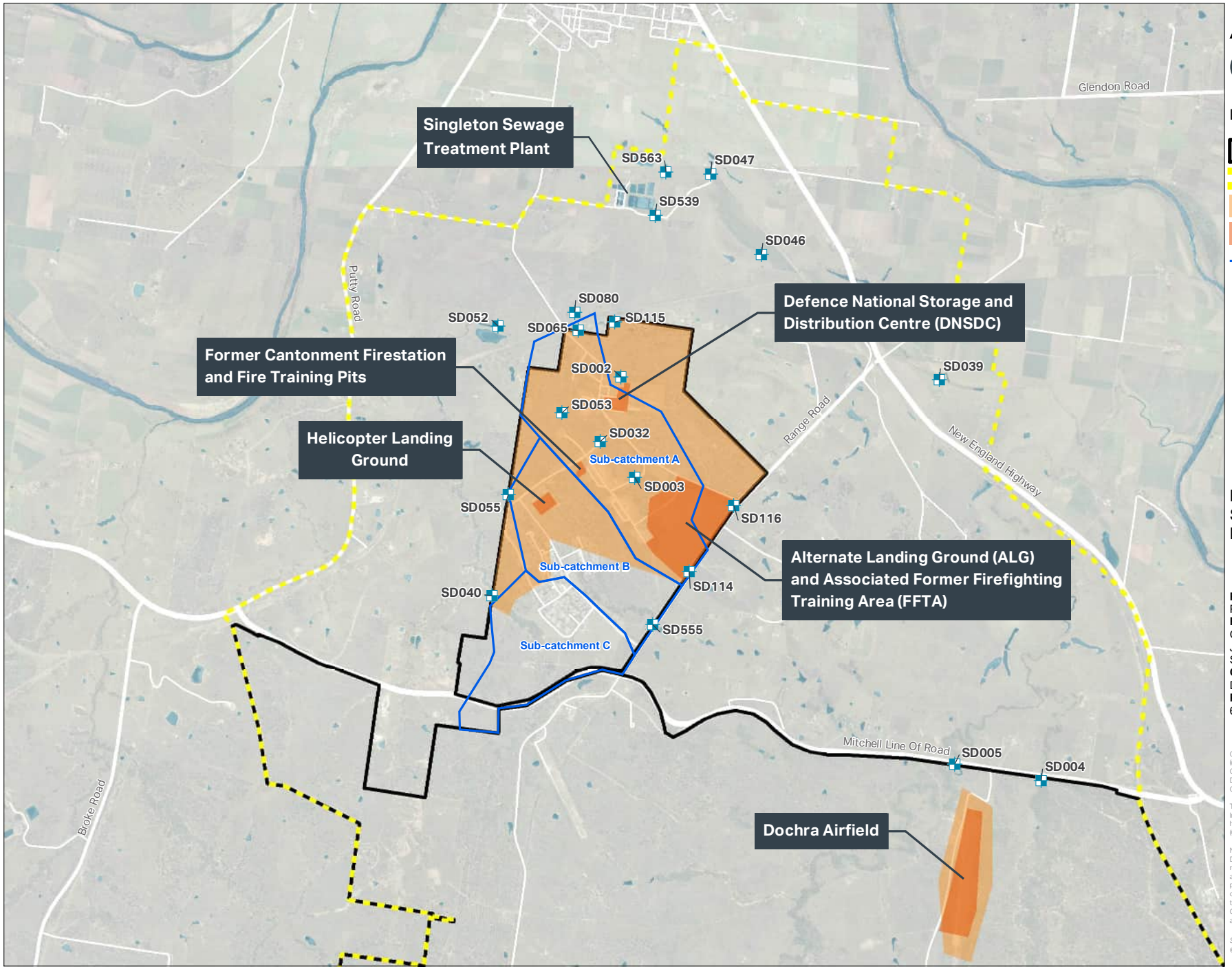

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Sediment Sampling Location

FIGURE F4:
SEDIMENT SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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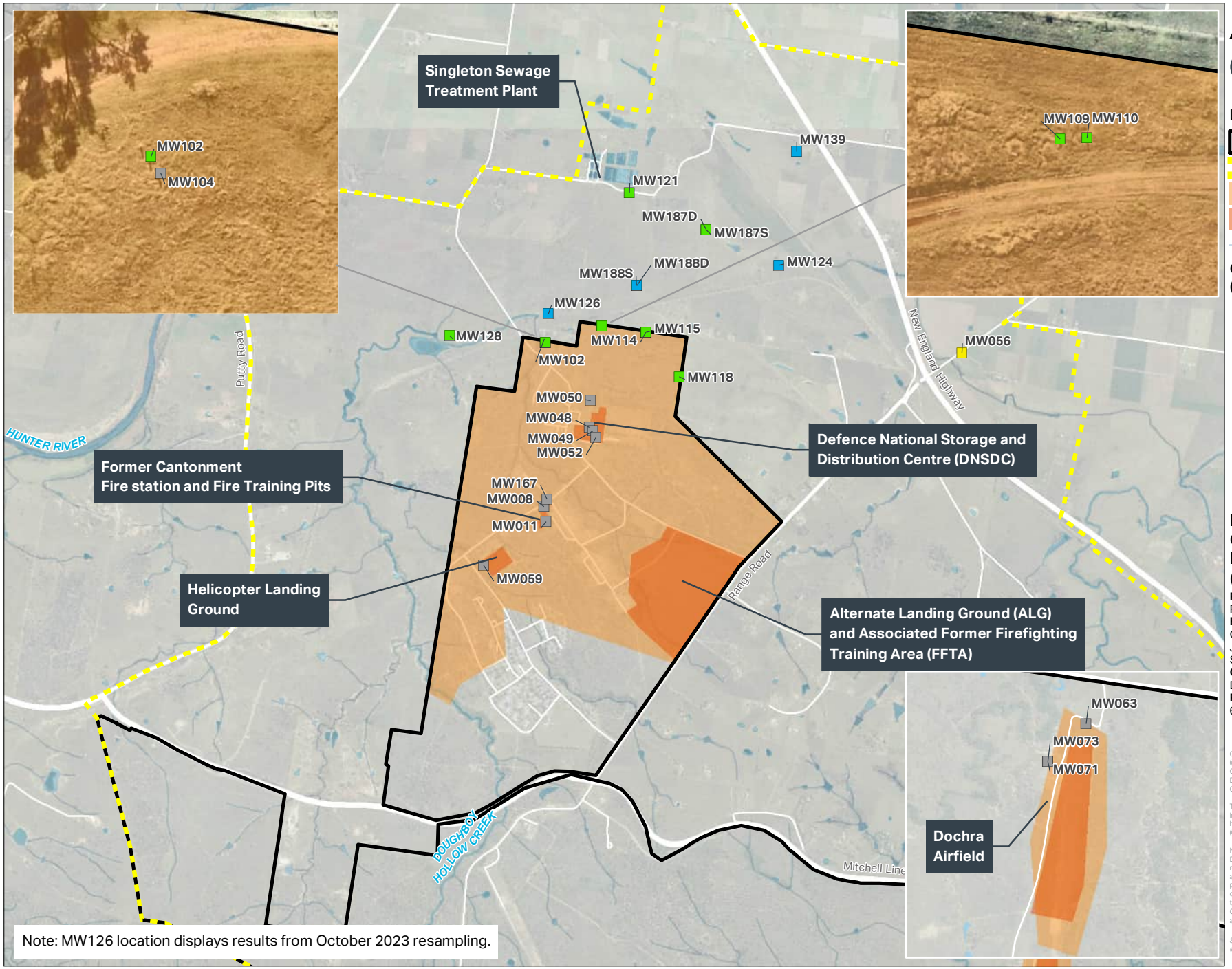

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Drainage Line

Groundwater - PFOS + PFHxS (µg/L)

- > 50
- > 10 - 50
- > 1 - 10
- > 0.07 - 1
- Limit of Reporting - 0.07
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F5:
GROUNDWATER ANALYTICAL RESULTS - PFOS+PFHXS (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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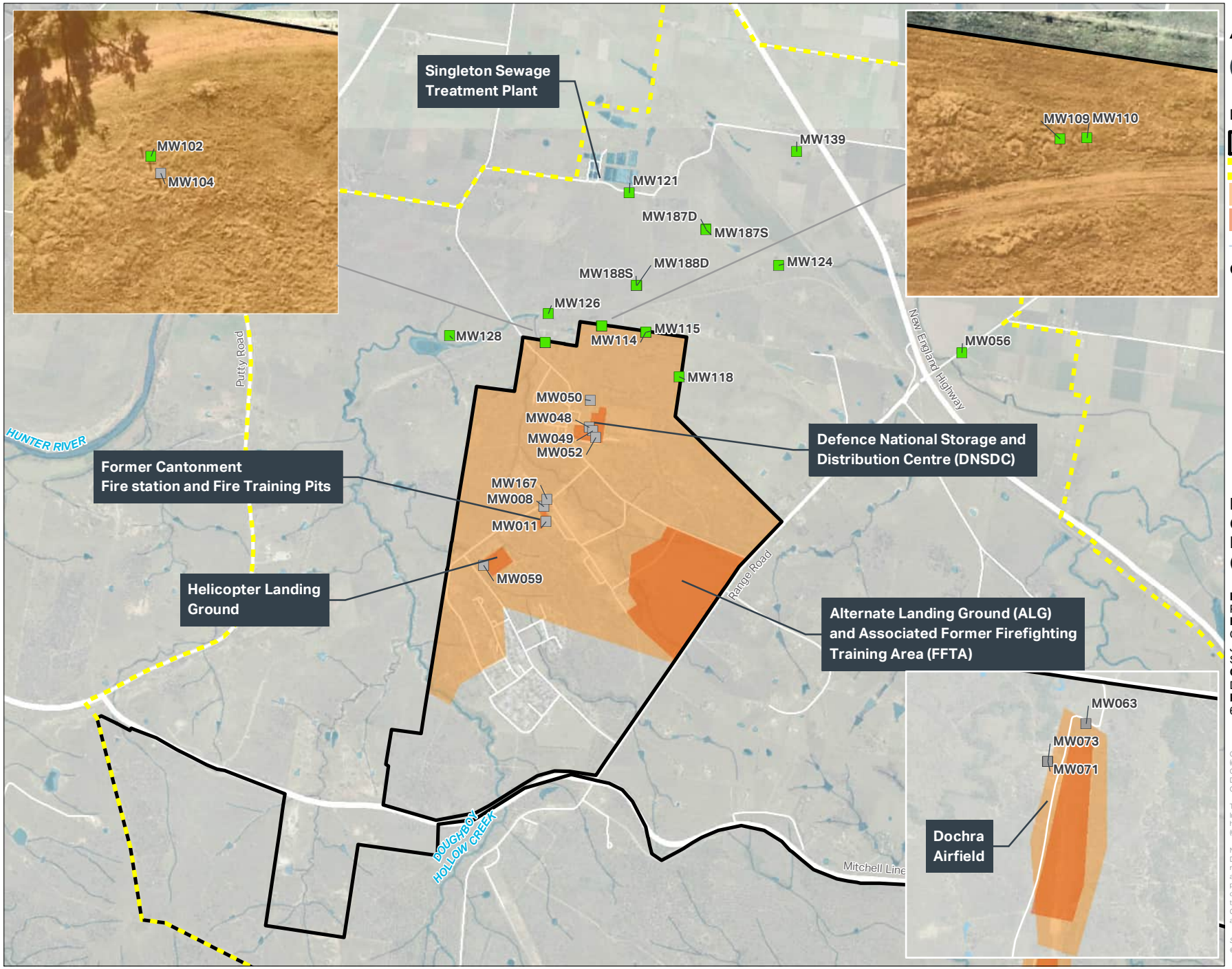

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Drainage Line

Groundwater - PFOA (µg/L)

- > 50
- > 10 - 50
- > 0.56 - 10
- > 0.1 - 0.56
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F6:
GROUNDWATER ANALYTICAL RESULTS - PFOA
(JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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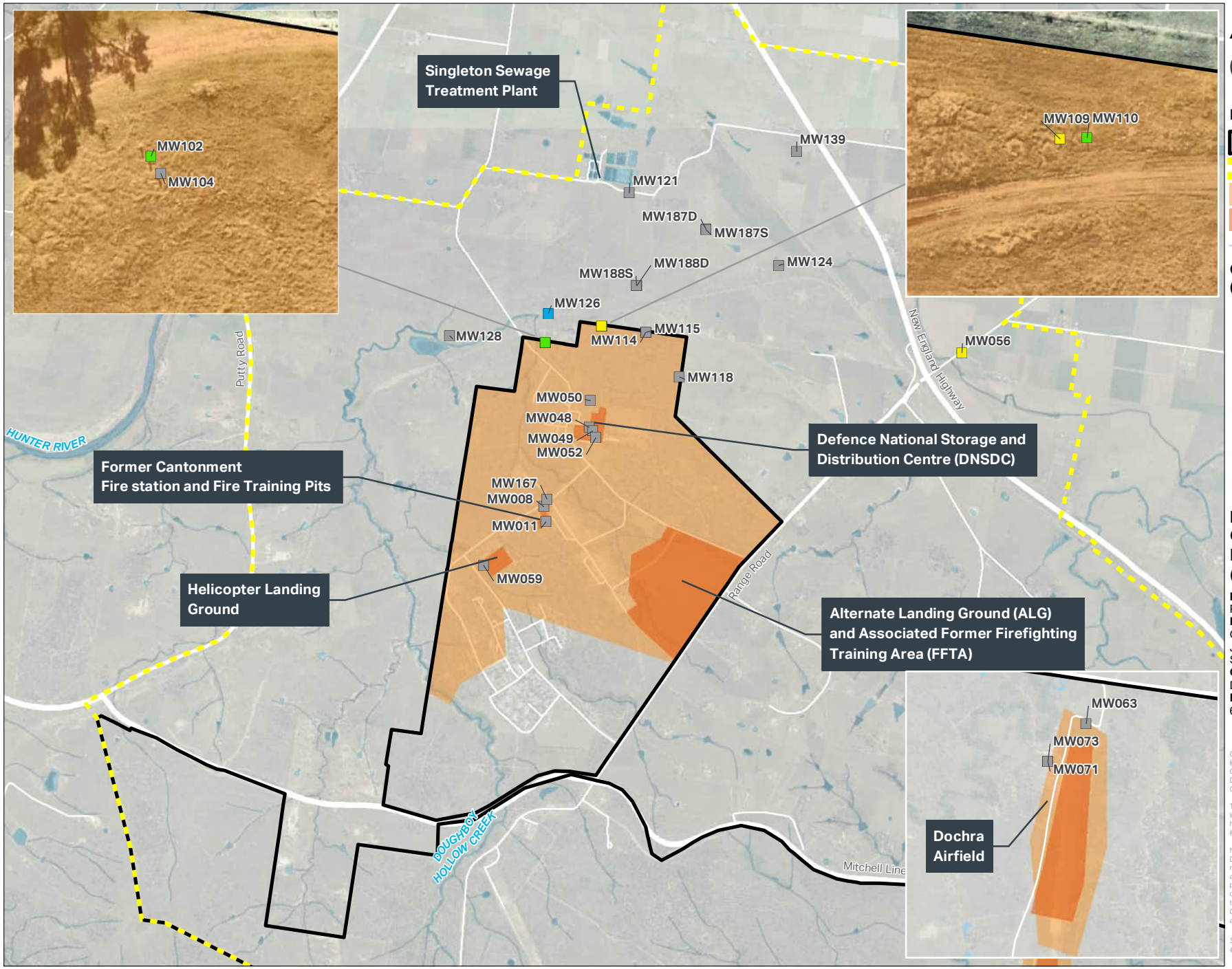

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Drainage Line

Groundwater - PFOS + PFHxS (µg/L)

- > 50
- > 10 - 50
- > 1 - 10
- > 0.07 - 1
- Limit of Reporting - 0.07
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F7:
GROUNDWATER ANALYTICAL RESULTS - PFOS+PFHXS (JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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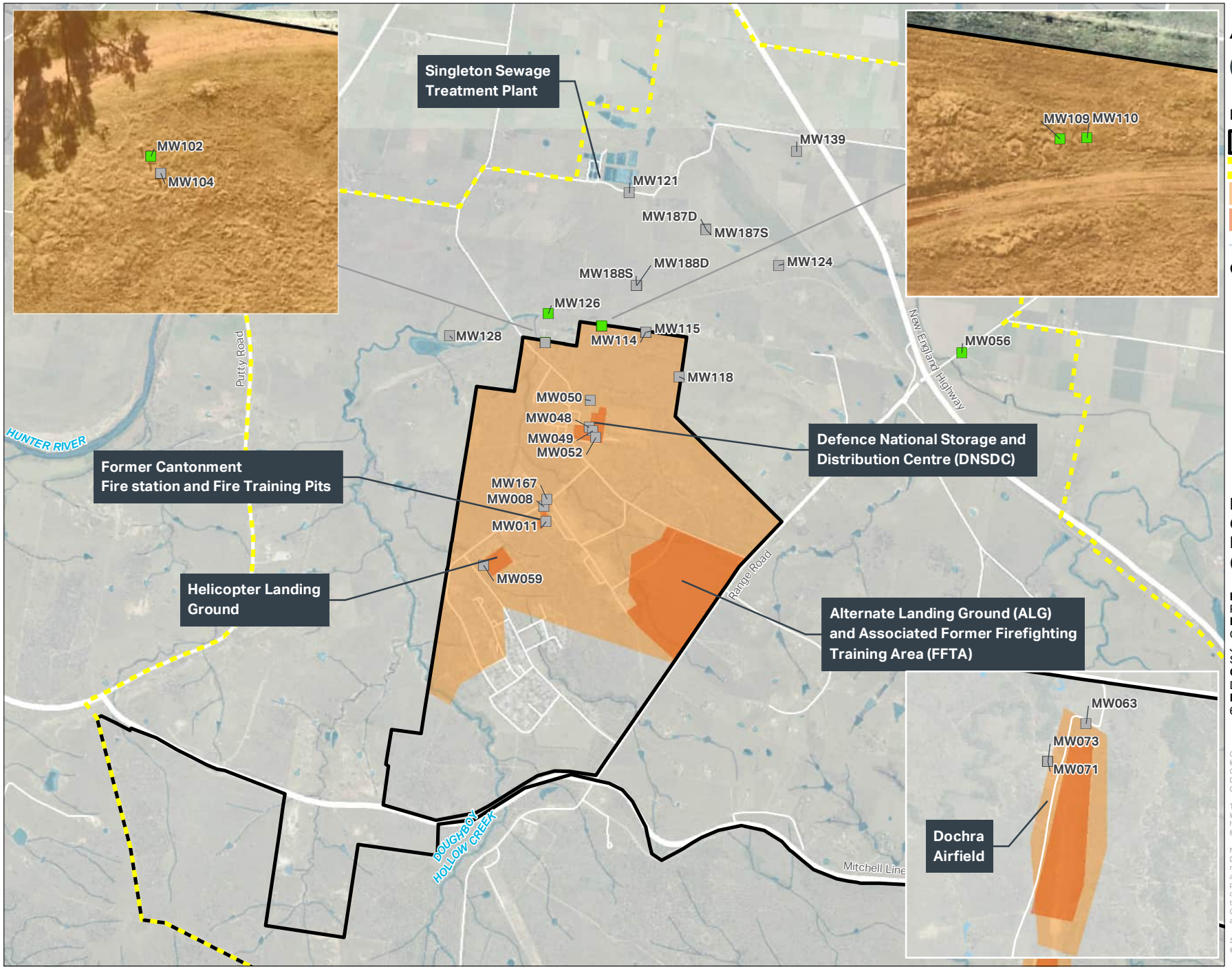

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Drainage Line

Groundwater - PFOA (µg/L)

- > 50
- > 10 - 50
- > 0.56 - 10
- > 0.1 - 0.56
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F8:
GROUNDWATER RESULTS - PFOA
(JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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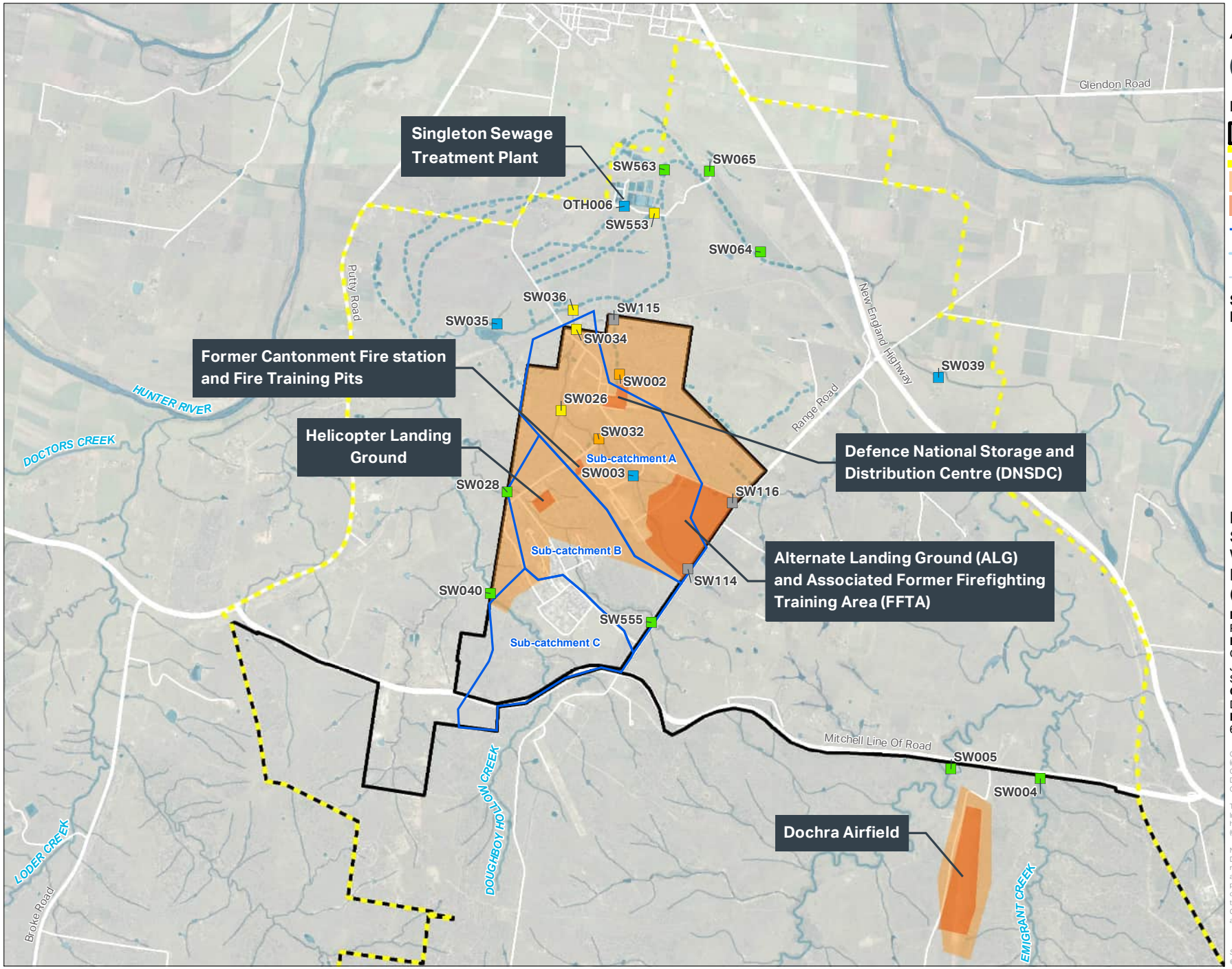

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage Line

Surface Water and Wastewater - PFOS + PFHxS (µg/L)

- > 50
- > 10 - 50
- > 2 - 10
- > 0.1 - 2
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F9:
SURFACE WATER AND WASTEWATER ANALYTICAL RESULTS - PFOS+PFHXS (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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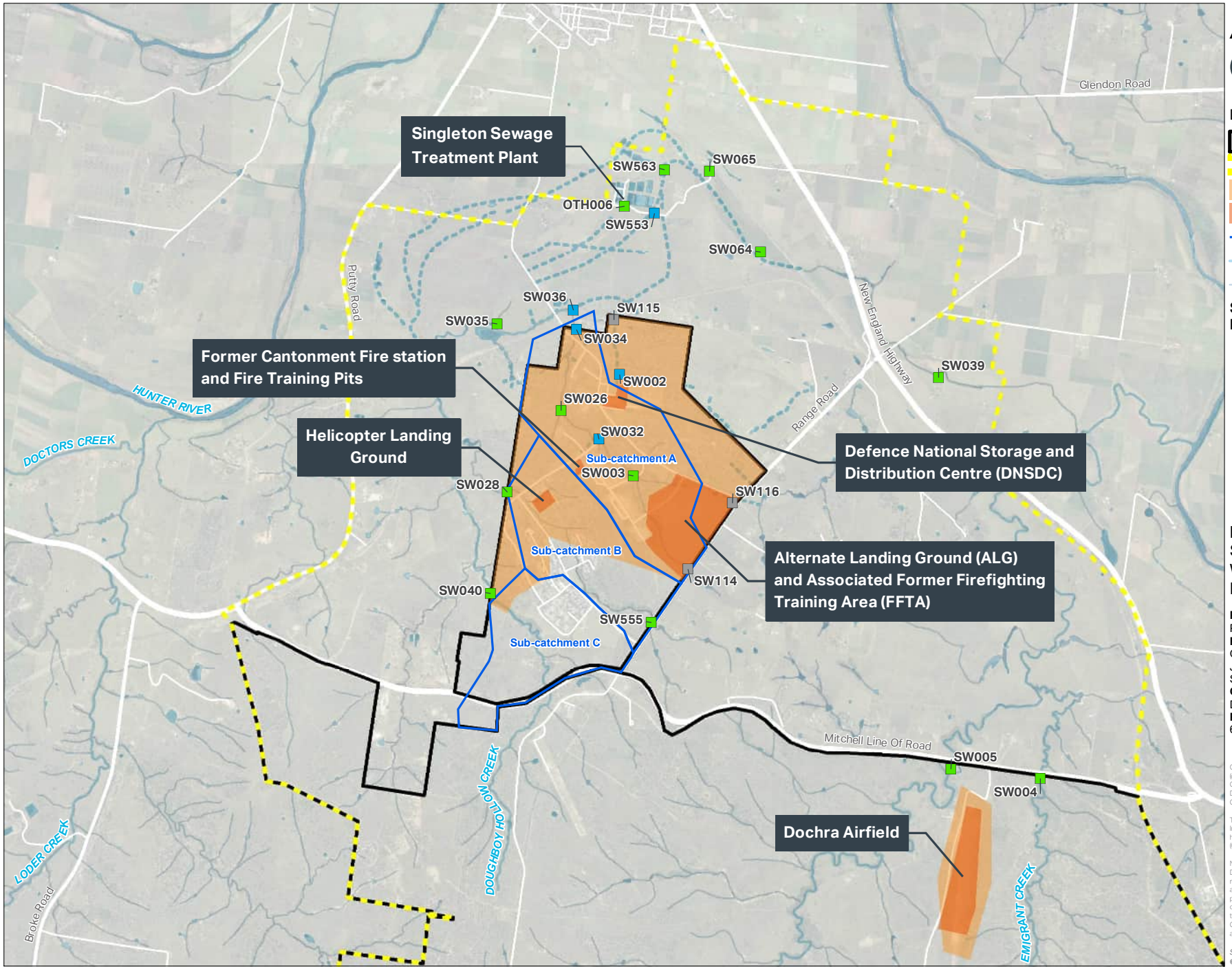

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage Line

Surface Water and Wastewater - PFOA (µg/L)

- > 50
- > 10 - 50
- > 0.56 - 10
- > 0.1 - 0.56
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F10:
SURFACE WATER AND WASTEWATER ANALYTICAL RESULTS - PFOA (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2022 to June 2023
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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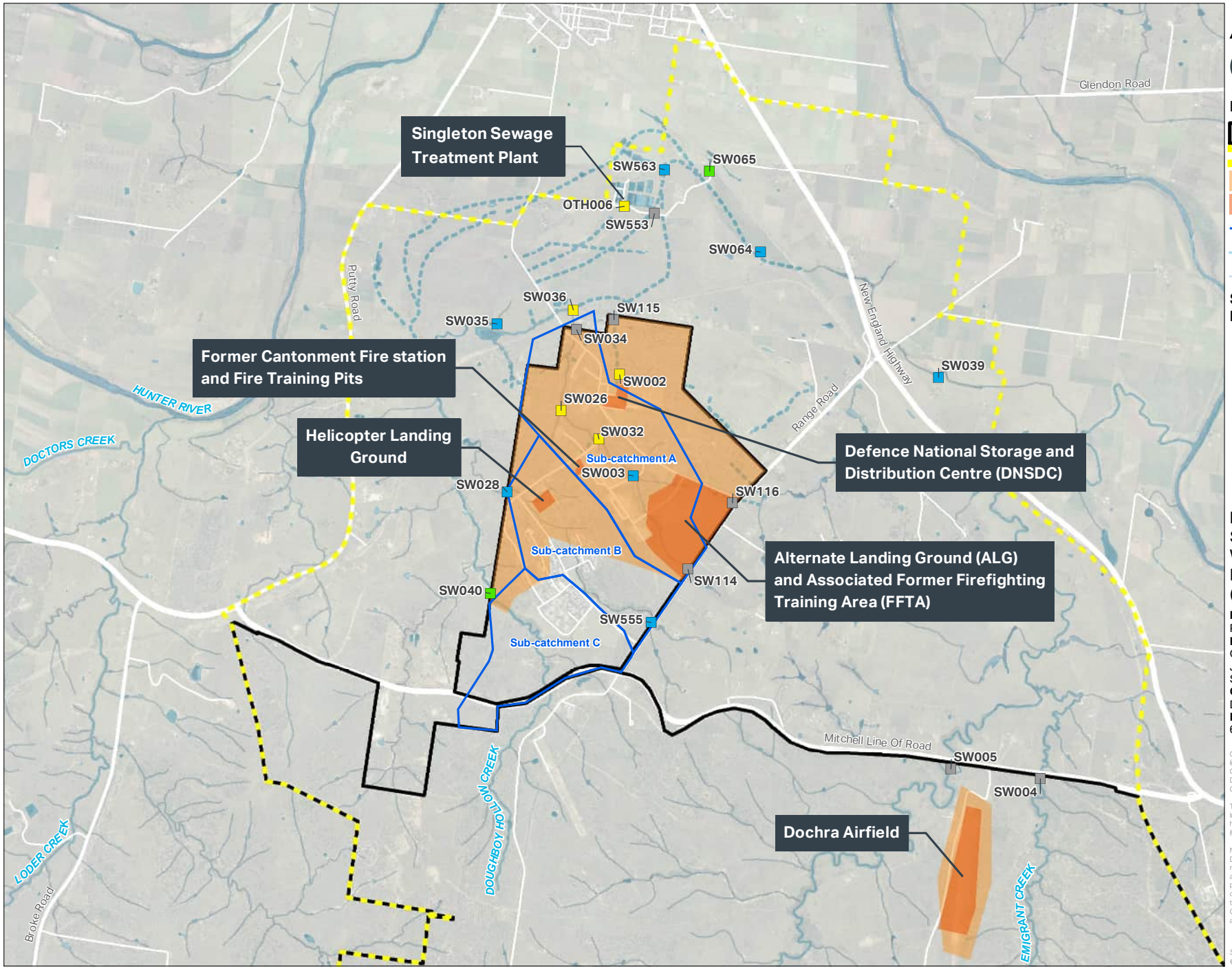

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage Line

Surface Water and Wastewater - PFOS + PFHxS (µg/L)

- > 50
- > 10 - 50
- > 2 - 10
- > 0.1 - 2
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F11:
SURFACE WATER AND WASTEWATER ANALYTICAL RESULTS - PFOS+PFHXS (JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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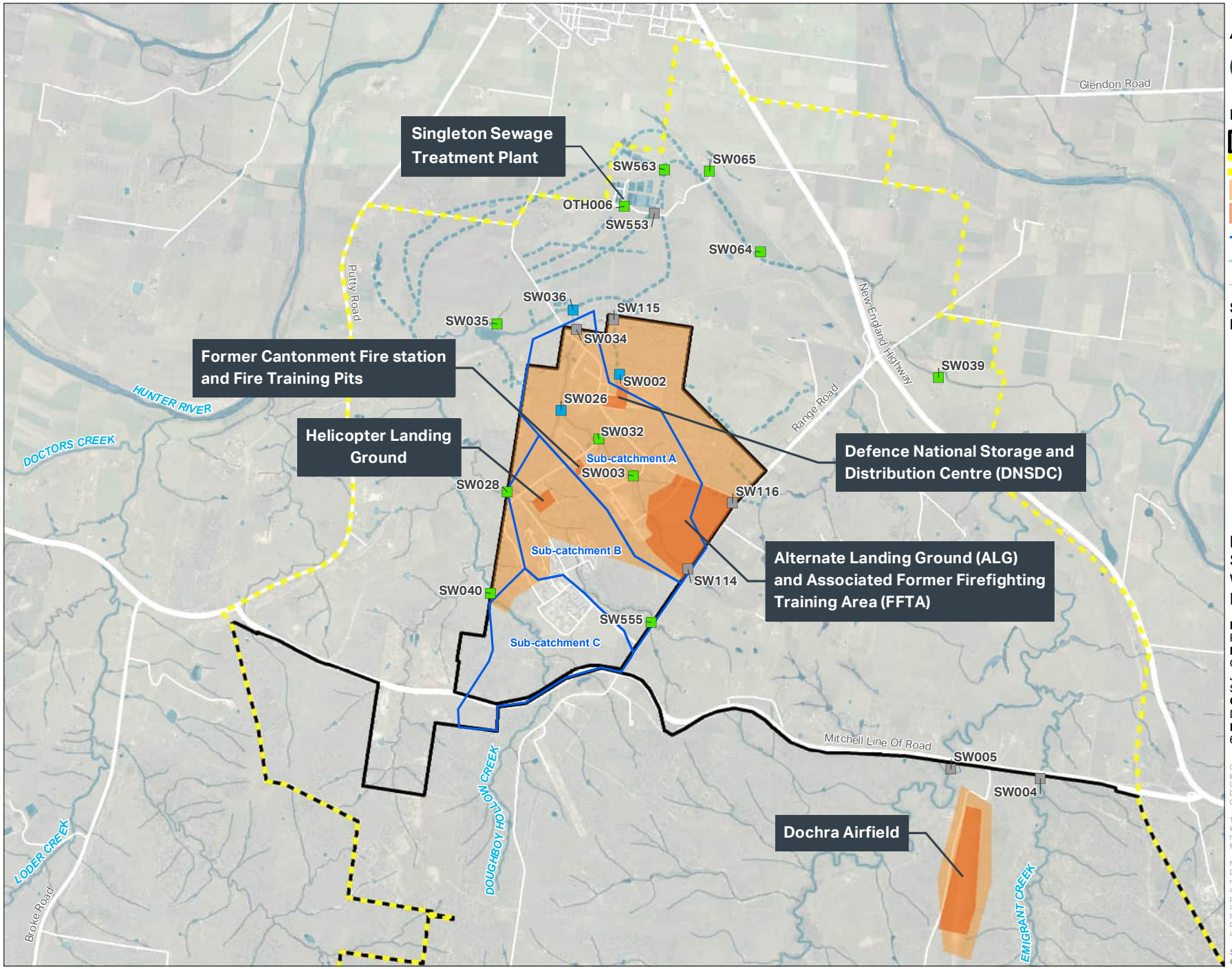

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage Line

Surface Water and Wastewater - PFOA (µg/L)

- > 50
- > 10 - 50
- > 0.56 - 10
- > 0.1 - 0.56
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F12:
SURFACE WATER AND WASTEWATER RESULTS - PFOA (JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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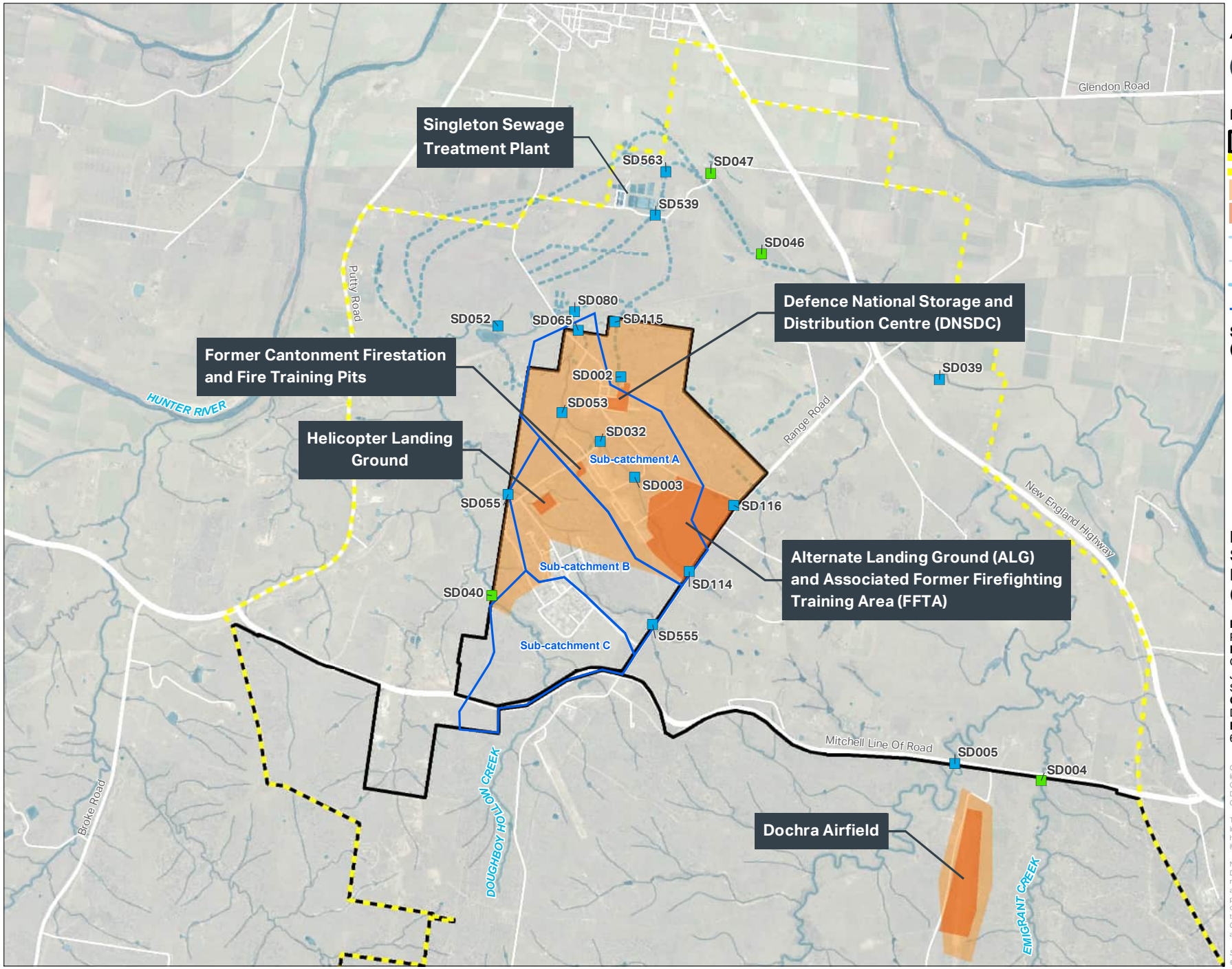


AECOM

N

0 0.5 1 km

Legend

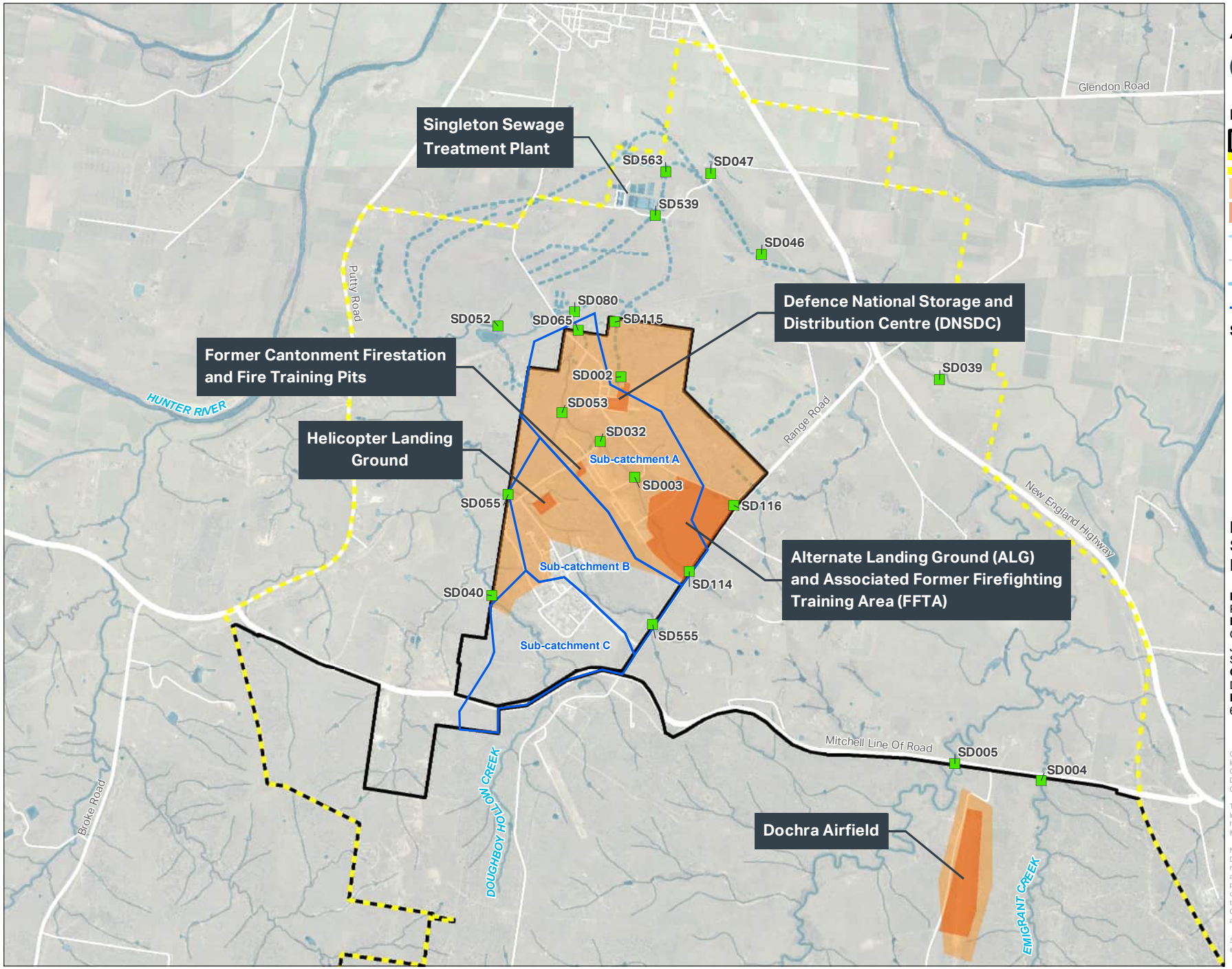
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage Line
- Undefined Drainage Lines
- Catchment Boundaries

Sediment - PFOS + PFHxS (mg/kg)

- > 50
- > 10 - 50
- > 0.2 - 10
- > Limit of Reporting - 0.2
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F13:
SEDIMENT ANALYTICAL RESULTS - PFOS+PFHXS (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage Line
- Undefined Drainage Lines
- Catchment Boundaries

Sediment - PFOA (mg/kg)

- > 50
- > 10 - 50
- > 0.2 - 10
- > Limit of Reporting - 0.2
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F14:
SEDIMENT ANALYTICAL RESULTS - PFOA (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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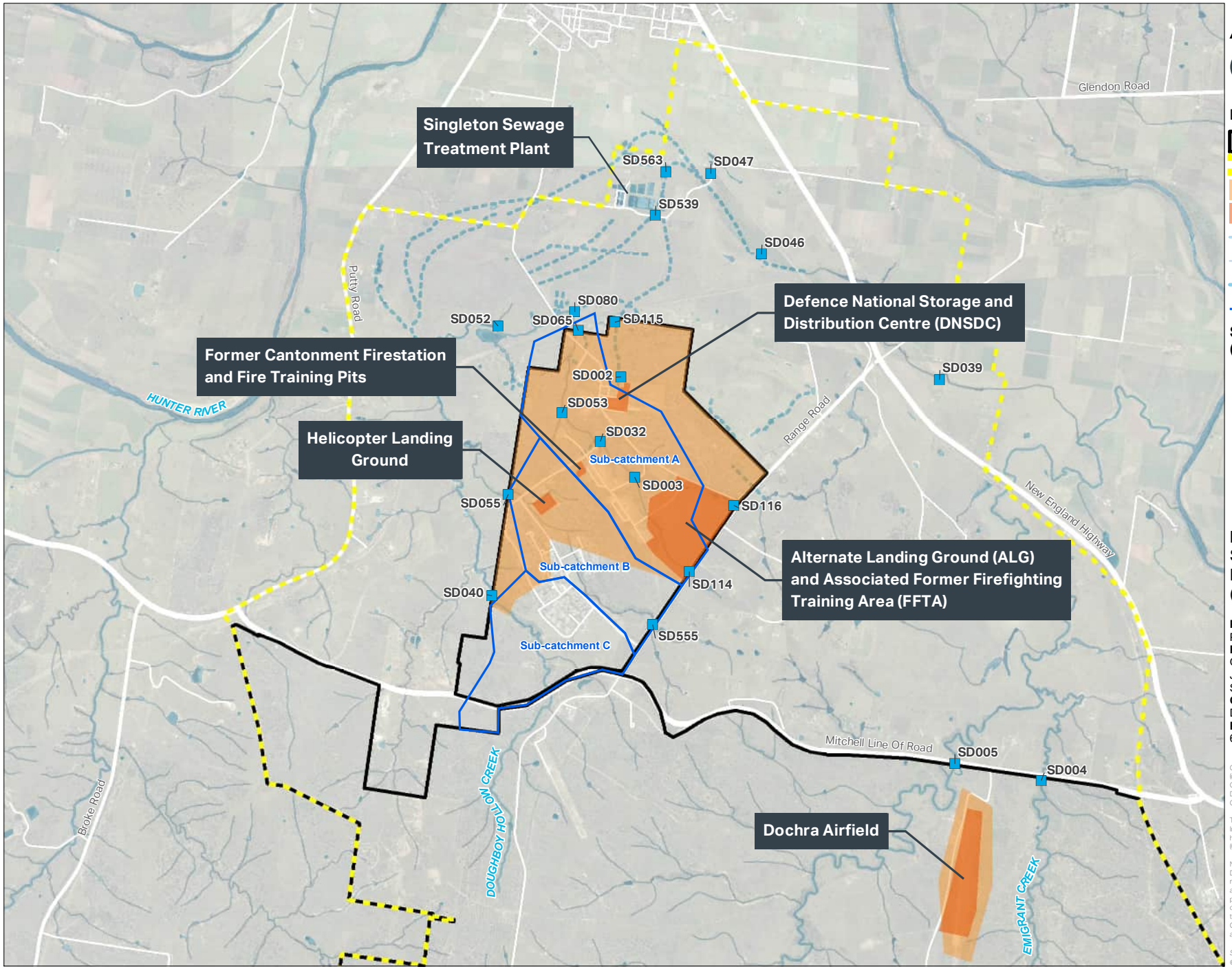


AECOM

N

0 0.5 1 km

Legend

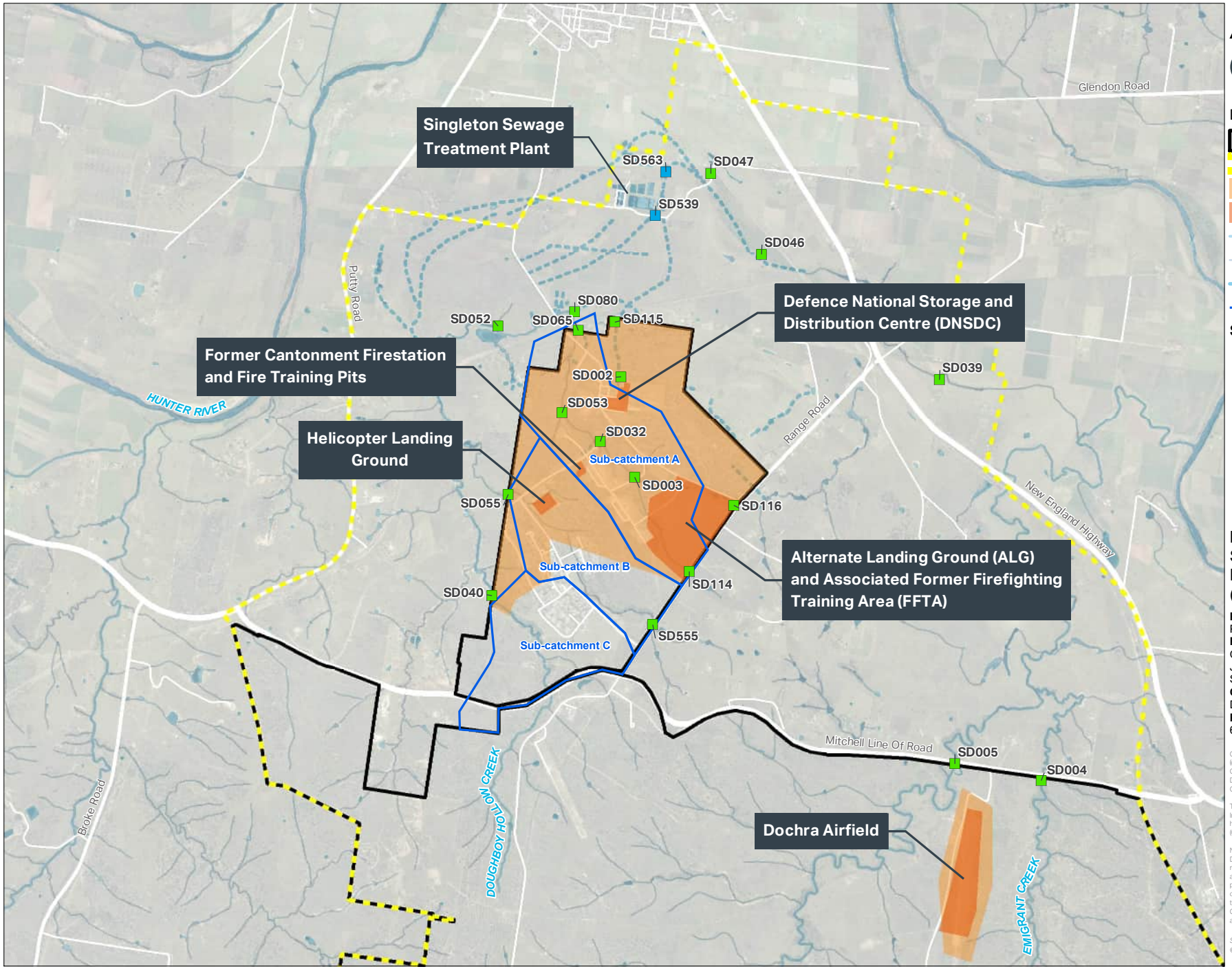
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage Line
- Undefined Drainage Lines
- Catchment Boundaries

Sediment - PFOS + PFHxS (mg/kg)

- > 50
- > 10 - 50
- > 0.2 - 10
- > Limit of Reporting - 0.2
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F15:
SEDIMENT ANALYTICAL RESULTS - PFOS+PFHXS (JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage Line
- Undefined Drainage Lines
- Catchment Boundaries

Sediment - PFOA (mg/kg)

- > 50
- > 10 - 50
- > 0.2 - 10
- > Limit of Reporting - 0.2
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

FIGURE F16:
SEDIMENT ANALYTICAL RESULTS - PFOA (JANUARY 2024)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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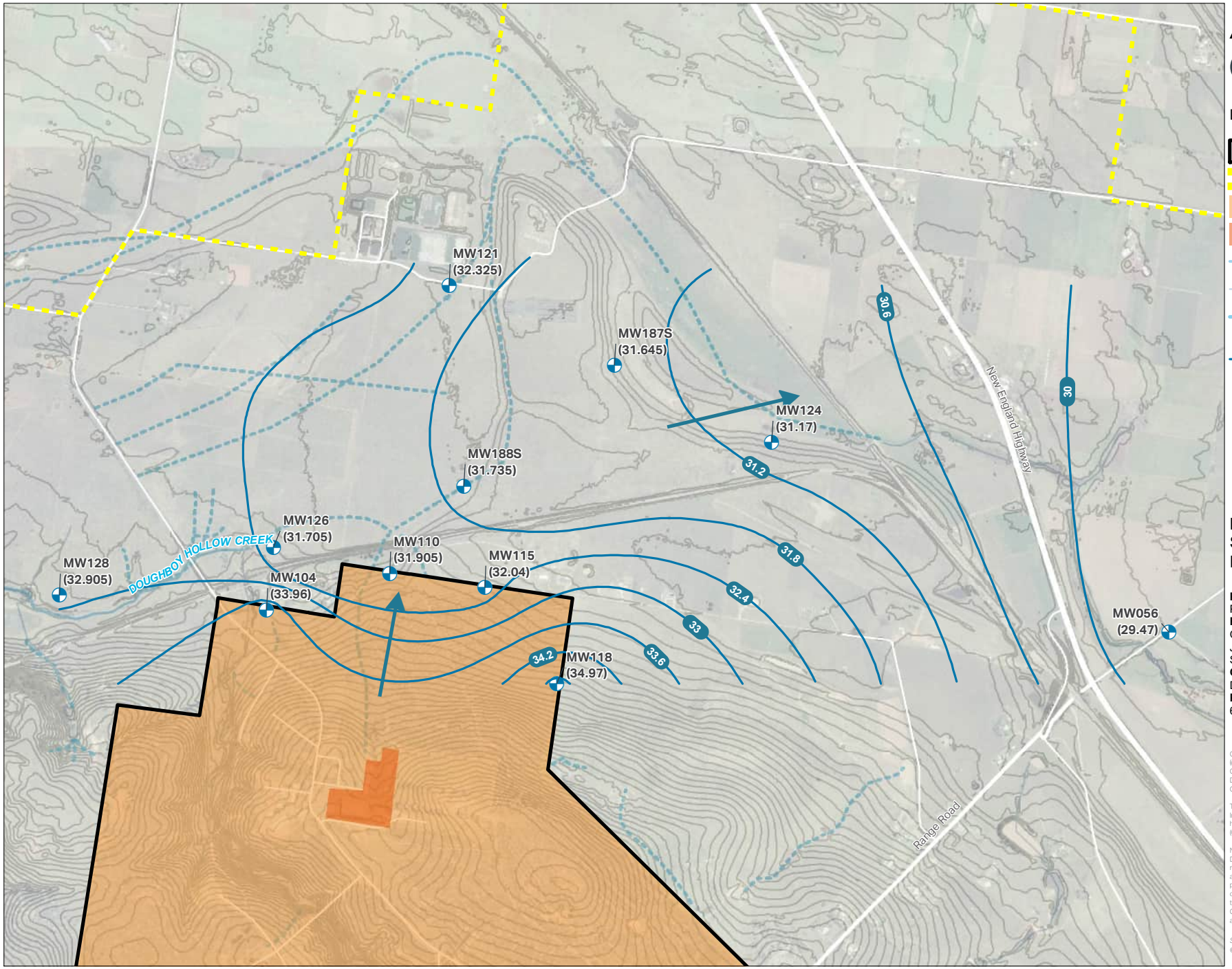

AECOM

N

0 200 400 Meters

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Groundwater Elevation Contour (Shallow Wells; mAHD)
- Groundwater Location (gauged)

FIGURE F17:
SHALLOW GROUNDWATER ELEVATION PLAN (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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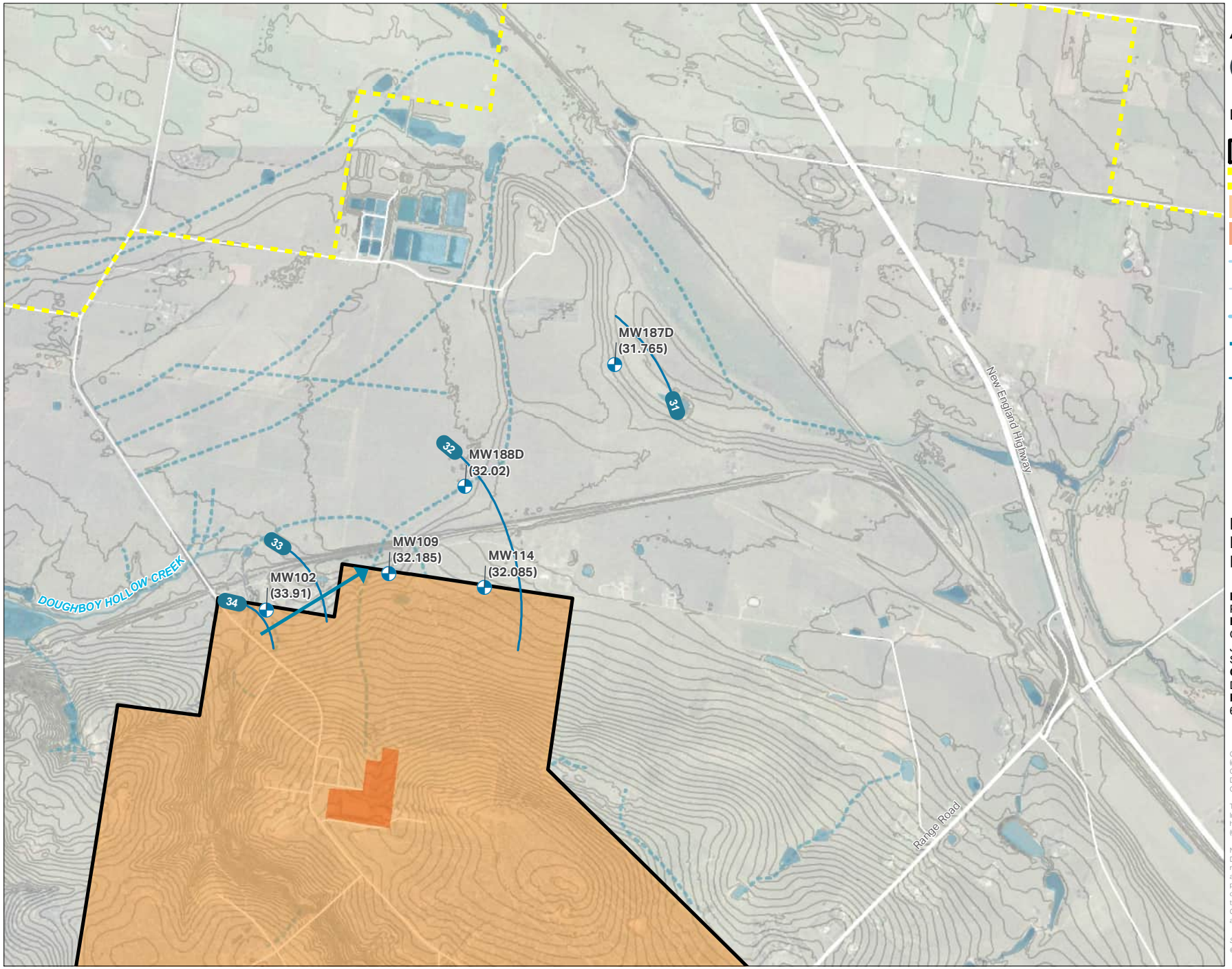

AECOM

N

0 200 400 Meters

Legend

- Site Boundary
- Former Investigation
- On-site Management
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Inferred Groundwater Flow
- Groundwater Elevation Contour (Deep Wells; mAHD)
- Groundwater Location (gauged)

FIGURE F18:
DEEP GROUNDWATER ELEVATION PLAN (JULY 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report
July 2023 to June 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60569462

Source:
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Appendix B

Tables

Table T1 - Groundwater Gauging and Observations

Location Code	Alternative Name	Top of Casing (mAHD)	Top Screen (mbgl)	Bottom Screen (mblg)	Stick up (m)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit/Gauging Comment
MW056	GW12, MW12S	34.71	5.3	8.3	0	n/a	19/07/2023 9:20	5.240	29.470	8.30	Targeted gauging event visit. Good condition.
MW056	GW12, MW12S	34.71	5.3	8.3	0	7.3	19/07/2023 13:48	-	-	8.30	Good condition.
MW056	GW12, MW12S	34.71	5.3	8.3	0	7.3	25/10/2023 11:25	5.475	29.235	8.28	Good condition. Resampling event.
MW056	GW12, MW12S	34.71	5.3	8.3	0	5.7	24/01/2024 8:02	5.685	29.025	8.29	Good condition.
MW102	GW02D	46.82	12.5	15.5	0.95	15.7	17/07/2023 11:48	12.915	33.905	16.70	Good condition.
MW102	GW02D	46.82	12.5	15.5	0.95	n/a	19/07/2023 8:39	12.910	33.910	-	Targeted gauging event visit. Good condition.
MW102	GW02D	46.82	12.5	15.5	0.95	13.0	23/01/2024 12:50	12.930	33.890	16.78	Good condition.
MW104	GW02S	46.72	10	13	0	-	17/07/2023 11:52	12.760	33.960	12.85	Good condition.
MW104	GW02S	46.72	10	13	0	n/a	19/07/2023 8:38	12.760	33.960	-	Targeted gauging event visit. Good condition.
MW104	GW02S	46.72	10	13	0	-	23/01/2024 13:00	12.315	34.405	12.44	Good condition. Insufficient water, not sampled.
MW109	GW03D	45.1	24.5	30	0	29	17/07/2023 10:53	12.940	32.160	30.00	Good condition.
MW109	GW03D	45.1	24.5	30	0	n/a	19/07/2023 8:33	12.915	32.185	-	Targeted gauging event visit. Good condition.
MW109	GW03D	45.1	24.5	30	0	29.0	23/01/2024 12:30	12.920	32.180	30.27	Good condition.
MW110	GW03S	45.4	11.5	14	0.93	13.7	17/07/2023 11:04	13.515	31.885	14.73	Good condition.
MW110	GW03S	45.4	11.5	14	0.93	n/a	19/07/2023 8:34	13.495	31.905	-	Targeted gauging event visit. Good condition.
MW110	GW03S	45.4	11.5	14	0.93	13.5	23/01/2024 12:20	13.400	32.000	14.84	Good condition.
MW114	GW04D	45.9	23.5	29.5	0.79	29.3	17/07/2023 10:36	13.850	32.050	30.46	Good condition.
MW114	GW04D	45.9	23.5	29.5	0.79	n/a	19/07/2023 8:28	13.815	32.085	-	Targeted gauging event visit. Good condition.
MW115	GW04S	45.86	11	14	0.79	13.8	17/07/2023 10:28	13.860	32.000	14.88	Good condition.
MW115	GW04S	45.86	11	14	0.79	n/a	19/07/2023 8:27	13.820	32.040	-	Targeted gauging event visit. Good condition.
MW118	GW05S	52.72	unknown	unknown	0	25	17/07/2023 9:57	17.378	35.342	26.08	Good condition.
MW118	GW05S	52.72	0	0	0	n/a	19/07/2023 8:20	17.750	34.970	-	Targeted gauging event visit. Good condition.
MW121	GW06/GW06S	39.82	9.5	12.5	0	n/a	19/07/2023 13:02	7.495	32.325	12.30	Targeted gauging event visit and sampling. Good condition.
MW124	GW07/GW07S	38.68	9.4	13.8	0	n/a	19/07/2023 10:58	7.510	31.170	13.70	Targeted gauging event visit and sampling. Good condition.
MW126	GW08S	42.78	10.5	13.5	0	11	18/07/2023 11:57	11.075	31.705	12.10	Good condition.
MW126	GW08S	42.78	10.5	13.5	0	11	25/10/2023 8:50	10.920	31.860	12.10	Good condition. Resampling event.
MW126	GW08S	42.78	10.5	13.5	0	10.9	24/01/2024 11:00	10.820	31.960	12.12	Good condition.
MW128	GW09S	44.08	9.2	12.2	0	12.6	18/07/2023 12:44	11.175	32.905	13.65	Good condition.
MW129	GW10S	37.95	9	12	0	n/a	17/07/2023 9:55	-	-	-	Not sampled - residential appointment not confirmed.
MW132	RESI_GW011	unknown	unknown	unknown	0	n/a	17/07/2023 9:50	-	-	-	Not sampled - residential appointment not confirmed.
MW139	RESI_GW013/RESI_GW13	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a	n/a	Residential bore, connected to tap.
MW187D	MW09D	40.23	18.7	24.7	0	n/a	19/07/2023 10:11	8.465	31.765	25.62	Targeted gauging event visit and sampling. Good condition.
MW187S	MW09S	40.4	7	10	0	n/a	19/07/2023 10:05	8.755	31.645	10.88	Targeted gauging event visit and sampling. Good condition.
MW188D	MW10D	41.25	24	30	0.96	n/a	19/07/2023 15:34	9.230	32.020	28.17	Targeted gauging event visit and sampling. Poor condition. Monument damaged, snapped from base of monument.
MW188S	MW10S	41.12	8	11	0.89	n/a	19/07/2023 11:25	9.385	31.735	12.03	Targeted gauging event visit and sampling. Good condition.

Notes

mAHD	meters Australian Height Datum
mbgl	meters below ground level
mbTOC	meters below Top of Casing
n/a	Not applicable
-	Not measured

Table T2 - Groundwater Quality Parameters and Observations

				Water Quality Parameters					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Oxidation-Reduction Potential Er	Oxidation-Reduction Potential Eh (Corrected)
				mg/L	°C	µS/cm	pH Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Sample Comments**						
MW056	GW12, MW12S	19 Jul 2023	Clear, low turbidity, no odour, no sheen.	7.97	19.0	3,411.0	7.23	63.4	269.2
MW056	GW12, MW12S	25 Oct 2023	Clear, no turbidity, no odour or sheen. Sample collected with hydrasleeve. Resampling visit.	4.16	23.5	3,410.0	7.13	64.7	270.5
MW056	GW12, MW12S	25 Oct 2023	Clear, no turbidity, no odour or sheen. Sample collected with peristaltic pump. Resampling visit.	0.99	20.1	3,380.0	6.99	20.0	225.8
MW056	GW12, MW12S	24 Jan 2024	Clear, no turbidity, no odour, no sheen.	2.78	20.3	3,281.0	7.13	106.7	312.5
MW102	GW02D	17 Jul 2023	Clear, low turbidity, no odour, no sheen.	1.03	19.2	19,965.0	6.72	-74.4	131.4
MW102	GW02D	23 Jan 2024	Clear, no turbidity, no odour, no sheen.	0.98	24.0	23,379.0	6.56	-120.3	85.5
MW104	GW02S	17 Jul 2023	Insufficient water to sample - no water in Hydrasleeve.	n/a	n/a	n/a	n/a	n/a	n/a
MW104	GW02S	23 Jan 2024	Insufficient water to sample.	n/a	n/a	n/a	n/a	n/a	n/a
MW109	GW03D	17 Jul 2023	Clear, no turbidity, no odour, no sheen.	8.38	21.0	16,320.0	6.91	-112.3	93.5
MW109	GW03D	23 Jan 2024	Light grey, low/medium turbidity, organic odour, no sheen.	0.57	22.4	18,983.0	6.75	-112.3	93.5
MW110	GW03S	17 Jul 2023	Light yellow, medium turbidity, no odour, no sheen.	3.05	20.3	10,564.0	7.19	-33.6	172.2
MW110	GW03S	23 Jan 2024	Light grey, low turbidity, no odour, no sheen.	0.98	26.0	20,634.0	6.89	40.0	245.8
MW114	GW04D	17 Jul 2023	Clear, medium turbidity, no odour, no sheen.	1.17	20.4	5,947.0	6.98	-150.1	55.7
MW115	GW04S	17 Jul 2023	Clear, low turbidity, no odour, no sheen.	4.29	20.5	7,839.0	6.63	52.9	258.7
MW118	GW05S	17 Jul 2023	Light grey, medium turbidity, no odour, no sheen.	5.23	19.4	15,241.0	6.28	64.7	270.5
MW121	GW06/GW06S	19 Jul 2023	Yellow, medium turbidity, no odour, no sheen.	2.21	18.2	754.0	7.09	-116.8	89.0
MW124	GW07/GW07S	19 Jul 2023	Light grey, medium turbidity, no odour, no sheen.	2.33	19.0	7,789.0	6.88	-110.2	95.6
MW126	GW08S	18 Jul 2023	Light yellow, low turbidity, no odour, no sheen.	7.00	18.2	1,086.0	6.47	130.8	336.6
MW126	GW08S	25 Oct 2023	Brown, high turbidity, no odour or sheen. Sample collected with hydrasleeve. Resampling visit.	4.58	23.2	4,983.0	6.62	21.6	227.4
MW126	GW08S	25 Oct 2023	Brown, moderate turbidity, no odour or staining. Sample collected with peristaltic pump. Resampling visit.	4.98	23.9	5,397.0	7.00	59.4	265.2
MW126	GW08S	24 Jan 2024	Light brown, medium turbidity, no odour, no sheen.	2.10	25.1	5,556.0	6.98	53.9	259.7
MW128	GW09S	18 Jul 2023	Light yellow, low turbidity, no odour, no sheen.	5.37	20.2	3,094.0	7.20	24.9	230.7
MW129	GW10S	17 Jul 2023	Not sampled - residential appointment not confirmed.	n/a	n/a	n/a	n/a	n/a	n/a
MW132	RESI_GW011	17 Jul 2023	Not sampled - residential appointment not confirmed.	n/a	n/a	n/a	n/a	n/a	n/a
MW139	RESI_GW013/RESI_GW13	18 Jul 2023	Clear, low turbidity, no odour, no sheen. Sampled from tap connected to bore.	10.37	12.9	2,914.0	6.59	138.2	344.0
MW187D	MW09D	19 Jul 2023	Clear, low turbidity, organic odour, no sheen.	2.16	16.4	11,685.0	7.05	116.8	322.6
MW187S	MW09S	19 Jul 2023	Clear, low turbidity, no odour, no sheen.	7.08	16.1	14,855.0	6.75	131.7	337.5
MW188D	MW10D	19 Jul 2023	Clear, medium turbidity, no odour, no sheen.	0.94	19.4	8,801.0	8.78	-182.5	23.3
MW188S	MW10S	19 Jul 2023	Clear, no turbidity, no odour, no sheen.	4.19	17.9	10,215.0	7.17	-4.6	201.2

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts
Corrected field Oxidation-Reduction Potential measurement Eh = Er + 205.8	
n/a	not applicable

Table T3 - Surface Water and Wastewater Quality Parameters and Observations

						Water Quality Parameters					
						Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Oxidation-Reduction Potential Er	Oxidation-Reduction Potential Eh (Corrected)
						mg/L	°C	µS/cm	pH Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Location Comments**	**Sample Depth (m)**	**Sample Comments**						
OTH006		19 Jul 2023	Effluent wastewater pit. Approximately 1 m wide, 4 m deep. Water approximately 0.25 m deep. Water flow observed.	n/a	Clear, low turbidity, organic odour, no sheen. Geochemical parameters not required.	n/a	n/a	n/a	n/a	n/a	n/a
OTH006		24 Jan 2024	Effluent wastewater pit. Approximately 1 m wide, 4 m deep. Water approximately 0.25 m deep. Water flow observed.	0.1	White/cloudy, medium turbidity, organic odour, no sheen. Geochemical parameters not required.	n/a	n/a	n/a	n/a	n/a	n/a
SW002	SW002	17 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Light yellow, low turbidity, no odour, biosheen.	2.45	16.0	2,128.0	6.85	-34.9	170.9
SW002	SW002	23 Jan 2024	Dam. Approximately 20 m wide. Approximately 0.5 m deep. Algae present on water surface. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, organic sheen.	0.54	24.3	192.7	6.31	-130.7	75.1
SW003	SW003	17 Jul 2023	Creek. Waterbody approx. 4 m wide, 0.2 m deep, with small pools of water. Water flow not observed.	0.1 - 0.2	Light yellow, medium turbidity, no odour, no sheen.	12.08	15.1	514.0	7.59	60.0	265.8
SW003	SW003	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.	3.51	24.4	130.0	7.41	98.3	304.1
SW004	SW004	19 Jul 2023	Dam. Waterbody approx. 5 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Yellow, medium turbidity, no odour, no sheen.	5.19	18.9	283.6	7.33	75.2	281.0
SW004	SW004	24 Jan 2024	Dam (running into creek). Approximately 10 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW005	SW005	19 Jul 2023	Creek. Waterbody approx. 1 m wide, 0.1 m deep. Water flow not observed.	0.05 - 0.1	Light yellow, low turbidity, no odour, no sheen.	5.52	13.4	4,812.0	7.09	-29.4	176.4
SW005	SW005	24 Jan 2024	Creek. Approximately 2 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW026	SMA13_SW	17 Jul 2023	Creek. Waterbody approx. 3 m wide, 0.4 m deep. Water flow not observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	8.02	16.9	298.2	7.47	146.3	352.1
SW026	SMA13_SW	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. Waters stagnant - nearly dry. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.	3.51	24.4	386.5	9.06	98.3	304.1
SW028	SMA7_SW	18 Jul 2023	Creek. Waterbody approx. 1 m wide, 1 m deep. Water flow not observed.	0.4 - 0.5	Clear, low turbidity, no odour, no sheen.	6.79	12.1	291.6	6.54	132.9	338.7
SW028	SMA7_SW	23 Jan 2024	Creek. Approximately 1 m wide. Approximately 1 m deep. No water flow observed.	0.4 - 0.5	Light brown, low turbidity, no odour, no sheen.	1.23	24.7	125.3	6.04	154.8	360.6
SW032	SW032	17 Jul 2023	Creek. Waterbody approx. 5 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Clear, no turbidity, no odour, biosheen.	8.12	14.9	462.5	7.11	102.0	307.8
SW032	SW032	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.	4.54	25.5	53.5	6.59	120.4	326.2
SW034	SMA8_SW	17 Jul 2023	Creek. Waterbody approx. 2 m wide, 0.3 m deep. Water flow observed.	0.1 - 0.2	Light yellow, medium turbidity, no odour, no sheen.	6.89	15.6	2,302.0	7.33	20.3	226.1
SW034	SMA8_SW	23 Jan 2024	Creek. Approximately 2 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW035	RESI_SW035	18 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Water flow not observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	4.61	20.5	1,142.0	7.21	32.9	238.7
SW035	RESI_SW035	24 Jan 2024	Dam. Approximately 15 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.	5.34	27.5	1,584.0	7.11	101.1	306.9
SW036	RESI_SW036	18 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow not observed.	0.3 - 0.4	Yellow, medium turbidity, no odour, no sheen.	4.82	18.5	311.5	6.63	115.2	321.0
SW036	RESI_SW036	24 Jan 2024	Dam. Approximately 10 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Brown, high turbidity, organic odour, no sheen.	7.54	28.3	647.0	8.33	41.8	247.6
SW039	RESI_SW039	18 Jul 2023	Dam. Waterbody approx. 10 m wide, 1 m deep. Water flow not observed.	0.4 - 0.5	Light yellow, low turbidity, no odour, no sheen.	5.80	12.5	713.0	7.10	127.5	333.3
SW039	RESI_SW039	24 Jan 2024	Dam. Approximately 15 m wide. Approximately 1 m deep. No water flow observed.	0.4 - 0.5	Clear, no turbidity, no odour, no sheen.	2.60	24.8	881.0	7.54	72.0	277.8
SW040	SW040	18 Jul 2023	Creek. Waterbody approx. 1 m wide, 1 m deep. Water flow observed.	0.4 - 0.5	Light yellow, low turbidity, no odour, biosheen.	9.12	17.5	2,615.0	7.25	132.9	338.7
SW040	SW040	23 Jan 2024	Creek. Approximately 1 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.	3.81	26.4	3,540.0	7.25	139.3	345.1
SW064	RESI_SW041	19 Jul 2023	Dam. Waterbody approx. 15 m wide, 0.2 m deep. Water flow not observed.	0.05 - 0.1	Yellow, medium turbidity, no odour, no sheen.	4.10	15.5	1,795.0	7.78	78.6	284.4
SW064	RESI_SW041	24 Jan 2024	Dam. Approximately 20 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Brown, medium turbidity, organic odour, no sheen.	5.03	32.9	724.0	7.52	135.3	341.1
SW065	RESI_SW042	19 Jul 2023	Creek. Waterbody approx. 3 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	7.51	16.8	2,956.0	7.64	121.2	327.0
SW065	RESI_SW042	24 Jan 2024	Drain (running into creek). Approximately 2 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.	3.51	33.3	669.0	7.62	132.0	337.8
SW114		17 Jul 2023	Drain. Approximately 3 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW114		23 Jan 2024	Drain (running into creek). Approximately 1 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW115		17 Jul 2023	Dam. Approximtely 5 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW115		23 Jan 2024	Creek. Approximately 5 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW116		17 Jul 2023	Drain. Approximately 2 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW116		23 Jan 2024	Drain (running into creek). Approximately 1 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW553		19 Jul 2023	Drain. Waterbody approx. 4 m wide, 0.1 m deep. Water flow not observed.	0 - 0.1	Green, medium turbidity, organic odour, biosheen.	6.63	17.8	1,258.0	7.13	12.4	218.2
SW553		24 Jan 2024	Drain (running into creek). Approximately 2 m wide. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW555		17 Jul 2023	Creek. Waterbody approx. 2 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Clear, no turbidity, no odour, biosheen.	5.34	14.3	1,655.0	7.16	156.7	362.5
SW555		23 Jan 2024	Drain (running into creek). Approximately 2 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.	2.72	23.6	926.0	7.56	-8.9	196.9
SW563		19 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow not observed.	0.3 - 0.4	Clear, low turbidity, no odour, no sheen.	9.89	17.5	584.0	7.98	2.8	208.6
SW563		24 Jan 2024	Dam. Approximately 10 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.	5.24	31.5	641.0	9.37	91.8	297.6

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts

Corrected field Oxidation-Reduction Potential measurement Eh = Er + 205.8

n/a	not applicable

Table T4 - Sediment Observations

Location Code	Location Alt. Name	Date	Sample Depth (m)	Sample Comments
SD002	SD002	17 Jul 2023	0 - 0.1	Silty CLAY: light brown, fine grain sand, moderate plasticity, some organic inclusions (rootlets). No odour or staining.
SD002	SD002	23 Jan 2024	0.2 - 0.3	Silty CLAY: brown/grey, fine grain, high plasticity, trace rootlets, moist. No odour or staining.
SD003	SD003	17 Jul 2023	0 - 0.1	Silty CLAY: brown/grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD003	SD003	23 Jan 2024	0.2 - 0.3	Silty CLAY with gravels: brown, fine grain, high plasticity, trace rootlets, gravel <2 cm, sub-rounded to sub-angular, saturated. No odour or staining.
SD004		19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD004		23 Jan 2024	0.1 - 0.2	Silty CLAY: dark brown/black, fine grain, medium plasticity, hard, moist, trace organic material (i.e. red-stained rootlets), dry. No odour or staining.
SD005		19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD005		24 Jan 2024	0.2 - 0.3	CLAY: light brown, fine to coarse grain, no plasticity, dry, trace rootlets. No odour or staining.
SD032	SD032	17 Jul 2023	0 - 0.1	Sandy CLAY: brown sands, grey clay, sand coarse, clay medium plasticity. No odour or staining.
SD032	SD032	23 Jan 2024	0.2 - 0.3	Clayey SAND with gravels: brown, fine grain, medium plasticity, trace rootlets, saturated, gravels <2 cm, sub-angular to sub-rounded. No odour or staining.
SD039	RESI_SD039	18 Jul 2023	0 - 0.2	CLAY: brown/grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD039	RESI_SD039	24 Jan 2024	0.1 - 0.2	Silty CLAY: brown, fine grain, trace rootlets, moist. No odour or staining.
SD040	SD040	18 Jul 2023	0 - 0.2	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD040	SD040	24 Jan 2024	0.2 - 0.3	CLAY: light brown, fine to coarse grain, no plasticity, dry, trace rootlets. No odour or staining.
SD046	RESI_SD041	19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD046	RESI_SD041	24 Jan 2024	0.2 - 0.3	Silty CLAY: brown, fine grain, low plasticity, saturated, trace rootlets. Organic odour.
SD047	RESI_SD042	19 Jul 2023	0.1 - 0.2	Sandy GRAVEL with trace clay: brown, gravel angular to sub-angular up to 5mm, sands course, clay saturated, medium plasticity. No odour or staining.
SD047	RESI_SD042	24 Jan 2024	0.2 - 0.3	Sandy GRAVEL: brown/yellow/black, fine to coarse grain, gravels <2 cm, sub-rounded to sub-angular. No odour no staining.
SD052	RESI_SD035	18 Jul 2023	0.1 - 0.2	CLAY: black, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD052	RESI_SD035	24 Jan 2024	0.2 - 0.3	Silty CLAY: black, fine grain, trace rootlets, medium plasticity, saturation. Organic odour.
SD053	SMA13_SD	17 Jul 2023	0 - 0.2	Silty CLAY: brown, medium plasticity. Organic odour, no staining.
SD053	SMA13_SD	23 Jan 2024	0.2 - 0.3	Sandy CLAY with gravels: dark brown/black, fine grain, high plasticity, trace rootlets, gravels <2 cm, sub-angular to sub-rounded, saturated. No odour or staining.
SD055	SMA7_SD	18 Jul 2023	0 - 0.1	CLAY: grey, saturated, medium plasticity. No odour or staining.
SD055	SMA7_SD	23 Jan 2024	0.2 - 0.3	Silty CLAY: dark brown, fine grain, high plasticity, trace rootlets, moist. No odour or staining.
SD065	SMA8_SD	17 Jul 2023	0 - 0.2	SAND: brown/yellow, medium to course grain, organic inclusions (rootlets <20%). No odour or staining.
SD065	SMA8_SD	23 Jan 2024	0.2 - 0.3	Silty SAND: brown, fine grain, trace rootlets, dry. No odour or staining.
SD080	RESI_SD013	18 Jul 2023	0 - 0.1	Silty CLAY: brown, moist, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD080	RESI_SD013	24 Jan 2024	0.2 - 0.3	Silty CLAY: grey, fine grain, high plasticity, trace rootlets, saturated. Organic odour.
SD114		17 Jul 2023	0 - 0.1	Silty CLAY: brown, dry, high plasticity. No odour or staining.
SD114		23 Jan 2024	0.2 - 0.3	Silty SAND: dark brown with orange mottling, fine grain, high plasticity, trace organic material (i.e. dead grass), dry. No odour or staining.
SD115		17 Jul 2023	0 - 0.1	Silty CLAY: brown, medium plasticity, organic inclusions (rootlets 15%). No odour or staining.
SD115		23 Jan 2024	0.2 - 0.3	Silty SAND: brown, fine grain, trace rootlets, dry. No odour or staining.
SD116		17 Jul 2023	0 - 0.1	Silty CLAY: brown colour, dry, friable. No odour or staining.
SD116		23 Jan 2024	0.2 - 0.3	Silty CLAY: brown, fine grain, medium plasicity, trace rootlets, dry. No odour or staining.
SD539		19 Jul 2023	0 - 0.2	Silty CLAY: brown, saturated, organic inclusions (rootlets). No odour or staining.
SD539		24 Jan 2024	0.2 - 0.3	Silty CLAY with organic material: brown, fine to coarse grain, low plasticity, dry, rootlets and organic materials (i.e. dead grass). No odour or staining.
SD555		17 Jul 2023	0 - 0.1	Silty CLAY: light grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD555		23 Jan 2024	0.2 - 0.3	Silty CLAY: dark brown/black, fine grain, high plasticity, trace rootlets, saturated. Organic odour.
SD563		19 Jul 2023	0.1 - 0.3	Silty CLAY: orange clay, brown sand, clay medium plasticity, sand medium to course grain. No odour or staining.
SD563		24 Jan 2024	0.2 - 0.3	Silty sandy CLAY: dark brown with orange mottling, fine grain, medium plasticity, damp. No odour or staining.

Table T5 - Historical Groundwater Analytical Results

							PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**					**PFAS - Perfluoroalkyl Carboxylic Acids**											**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
							Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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							0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water							**0.56**			**0.07**																									
PFAS NEMP 2020 Freshwater 99%							*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
MW008	15 May 2019	0356_CNN0018_GW08_190515	Normal	NSW_0356_PFAS			<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	21 Jul 2022	0356_MW008_220721	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	05 Oct 2018	CNN0018_GW02_181005	Normal	NSW_0356_PFAS			<0.05	*0.12*	0.3	**0.42**	0.42	<0.05	0.08	<0.05	<0.05	<0.2	<0.05	0.48	<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	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW011	28 Feb 2019	0356_CNN0018_GW02_190228	Normal	NSW_0356_PFAS			0.004	*0.029*	0.054	**0.083**	0.176	0.019	0.008	0.002	<0.002	<0.01	0.008	0.035	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.014	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW011	15 May 2019	0356_CNN0018_GW02_190515	Normal	NSW_0356_PFAS			<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC145_GW_190515	Field_D	NSW_0356_PFAS			<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC245_GW_190515	Field_D	NSW_0356_PFAS			<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	21 Jul 2022	0356_MW011_220721	Normal	NSW_0356_PFASOMP_22			<0.01	*0.02*	0.02	0.04	0.07	<0.02	<0.02	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	03 Oct 2018	0356_CNN0039_GW01_181003	Normal	NSW_0356_PFAS			0.03	*0.03*	2.17	**2.2**	2.23	0.17	0.24	<0.02	<0.02	<0.1	0.04	0.21	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	27 Feb 2019	0356_CNN0039_GW01_190227	Normal	NSW_0356_PFAS			0.042	*0.03*	2.68	**2.71**	3.96	0.293	0.461	0.017	<0.002	<0.01	0.067	0.299	0.051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.016	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW048	10 May 2019	0356_CNN0039_GW01_190510	Normal	NSW_0356_PFAS			0.03	*0.02*	2.26	**2.28**	2.88	0.16	0.24	<0.02	<0.02	<0.1	<0.02	0.15	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_MW048_220721	Normal	NSW_0356_PFASOMP_22			0.05	*0.02*	2.26	**2.28**	3.14	0.15	0.31	<0.02	<0.02	<0.1	0.04	0.27	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC103_220721	Field_D	NSW_0356_PFASOMP_22			0.05	*0.02*	2.24	**2.26**	3.15	0.19	0.31	<0.02	<0.02	<0.1	0.06	0.24	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC203_220721	Interlab_D	NSW_0356_PFASOMP_22			0.06	*0.02*	2.6	**2.7**	3.6	0.21	0.31	0.02	<0.02	0.04	0.05	0.23	0.05	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW049	03 Oct 2018	0356_CNN0039_GW02_181003	Normal	NSW_0356_PFAS			0.06	*1.12*	1.26	**2.38**	2.44	0.07	0.09	0.10	<0.02	<0.1	0.03	0.10	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW049	27 Feb 2019	0356_CNN0039_GW02_190227	Normal	NSW_0356_PFAS			0.169	*6.45*	3.97	**10.4**	11.9	0.204	0.316	0.339	<0.002	<0.01	0.057	0.360	0.048	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.030	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW049	10 May 2019	0356_CNN0039_GW02_190510	Normal	NSW_0356_PFAS			0.09	*2.13*	3.16	**5.29**	6.21	0.15	0.26	0.14	<0.02	<0.1	<0.02	0.25	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	07 May 2019	0356_CNN0039_GW03_190507	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	21 Jul 2022	0356_MW050_220721	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	10 May 2019	0356_CNN0039_GW05_190510	Normal	NSW_0356_PFAS			0.03	*0.42*	0.53	**0.95**	1.09	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	21 Jul 2022	0356_MW052_220721	Normal	NSW_0356_PFASOMP_22			0.02	*0.38*	0.28	**0.66**	0.79	<0.02	0.02	<0.02	<0.02	<0.1	0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	08 May 2019	0356_GW12_190508	Normal	NSW_0356_PFAS			<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	30 May 2019	0356_GW12_190530	Normal	NSW_0356_PFAS			<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	19 Jul 2023	0356_MW056_230719	Normal	NSW_0356_PFASOMP_23			<0.01	*0.12*	0.04	**0.16**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251125	Normal	NSW_0356_PFASOMP_23			<0.01	*0.09*	0.03	**0.12**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251200	Normal	NSW_0356_PFASOMP_23			<0.01	*0.06*	0.04	**0.10**	0.10	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_QC101_231025	Field_D	NSW_0356_PFASOMP_23			<0.01	*0.1*	0.03	**0.13**	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	24 Jan 2024	0356_MW056_240124	Normal	NSW_0356_PFASOMP_24			<0.01	*0.08*	0.02	**0.10**	0.10	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	08 May 2019	0356_HLG_GW03_190508	Normal	NSW_0356_PFAS			<0.01	*0.04*	0.04	**0.08**	0.08	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	21 Jul 2022	0356_MW059_220721	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW063	07 Feb 2019	0356_NSW1164_MW01D_19020	Normal	NSW_0356_PFAS			<0.05	*0.07*	<0.05	0.07	0.35	0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.23	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW063	09 May 2019	0356_NSW1164_MW01D_19050	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW063	19 Jul 2022	0356_MW063_220719	Normal	NSW_0356_PFASOMP_22			<0.01	*0.05*	<0.01	0.05	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.24	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	06 Feb 2019	0356_NSW1164_MW03D_19020	Normal	NSW_0356_PFAS			<0.05	*0.08*	<0.05	**0.08**	0.15	0.07	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW071	09 May 2019	0356_NSW1164_MW03D_19050	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	19 Jul 2022	0356_MW071_220719	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	06 Feb 2019	0356_NSW1164_MW03S_19020	Normal	NSW_0356_PFAS			<0.01	*0.01*	<0.02	0.01	1.52	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	09 May 2019	0356_NSW1164_MW03S_19050	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	19 Jul 2022	0356_MW073_220719	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	06 May 2019	0356_GW02D_190506	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	08 May 2019	0356_GW02D_190508	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	0.10	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.10	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	20 Oct 2020	0356-GW-02D-201020	Normal	NSW_0356_PFAS			<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	21 Jul 2022	0356_MW102_220721	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_MW102_230118	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_QC104_230118	Field_D	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_QC204_230118	Interlab_D	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW102	17 Jul 2023	0356_MW102_230717	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	23 Jan 2024	0356_MW102_240123	Normal	NSW_0356_PFASOMP_24			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T5 - Historical Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																									
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW109	10 May 2019	0356_GW03D_190510	Normal	NSW_0356_PFAS		<0.01	*0.28*	<0.02	**0.28**	1.76	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	28 May 2019	0356_GW03D_190528	Normal	NSW_0356_PFAS		<0.01	*0.16*	<0.02	**0.16**	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	19 Oct 2020	0356_QC254_201020	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW109	20 Oct 2020	0356-GW03D-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	20 Oct 2020	0356-QC154-201020	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	21 Jul 2022	0356_MW109_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	18 Jan 2023	0356_MW109_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.06*	0.06	**0.12**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	17 Jul 2023	0356_MW109_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_MW109_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.05*	0.06	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC102_240123	Field_D	NSW_0356_PFASOMP_24		<0.01	*0.02*	0.03	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC202_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW110	07 May 2019	0356_GW03S_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.30	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.30	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	20 Oct 2020	0356-GW03S-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	21 Jul 2022	0356_MW110_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	18 Jan 2023	0356_MW110_230118	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	17 Jul 2023	0356_MW110_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	23 Jan 2024	0356_MW110_240123	Normal	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	06 May 2019	0356_GW04D_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	20 Oct 2020	0356-GW04D-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	21 Jul 2022	0356_MW114_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	17 Jul 2023	0356_MW114_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	06 May 2019	0356_GW04S_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	20 Oct 2020	0356-GW04S-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	21 Jul 2022	0356_MW115_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	17 Jul 2023	0356_MW115_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	06 May 2019	0356_GW05S_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	21 Jul 2022	0356_MW118_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_MW118_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC100_230717	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC200_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	02 May 2019	0356_GW06_190502	Normal	NSW_0356_PFAS		0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	31 May 2019	0356_GW06_190531	Normal	NSW_0356_PFAS		0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	19 Oct 2020	0356_GW06_201019	Normal	NSW_0356_PFAS		0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_MW121_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC106_220722	Field_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC206_220722	Interlab_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	19 Jul 2023	0356_MW121_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	02 May 2019	0356_GW07_190502	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	31 May 2019	0356_GW07_190531	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Oct 2020	0356_GW07_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	20 Jul 2022	0356_MW124_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.07	0.07	0.07	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Jul 2023	0356_MW124_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	03 May 2019	0356_GW08S_190503	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW126	22 Jul 2022	0356_MW126_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	18 Jul 2023	0356_MW126_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.22*	0.02	**0.24**	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310250850	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310251035	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_QC100_231025	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T5 - Historical Groundwater Analytical Results

							PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
							Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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							0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water							**0.56**			**0.07**																									
PFAS NEMP 2020 Freshwater 99%							*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
MW126	24 Jan 2024	0356_MW126_240124	Normal	NSW_0356_PFASOMP_24			<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	03 May 2019	0356_GW09S_190503	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	30 May 2019	0356_GW09S_190530	Normal	NSW_0356_PFAS			<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	22 Jul 2022	0356_MW128_220722	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	18 Jul 2023	0356_MW128_230718	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	03 May 2019	0356_GW10S_190503	Normal	NSW_0356_PFAS			<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	30 May 2019	0356_GW10S_190530	Normal	NSW_0356_PFAS			<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	06 Nov 2018	0356_RESI_GW011_181106	Normal	NSW_0356_PFAS			<0.01	*0.02*	0.03	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	07 May 2019	0356_RESI_GW011_190507	Normal	NSW_0356_PFAS			<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	19 Jul 2022	0356_MW132_220719	Normal	NSW_0356_PFASOMP_22			<0.01	*0.03*	0.03	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Dec 2018	0356_RESI_GW013_181218	Normal	NSW_0356_PFAS			0.02	*0.03*	0.08	**0.11**	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	08 May 2019	0356_RESI_GW013_190508	Normal	NSW_0356_PFAS			<0.01	*0.03*	0.08	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	28 May 2020	0356_RESI_GW013_200528	Normal	NSW_0356_PFAS			0.02	*0.04*	0.06	**0.10**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Jul 2023	0356_MW139_230718	Normal	NSW_0356_PFASOMP_23			<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW167	02 Oct 2018	0356_CNN0230_GW01_181002	Normal	NSW_0356_PFAS			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW167	01 Mar 2019	0356_CNN0230_GW01_190301	Normal	NSW_0356_PFAS			<0.002	*0.012*	<0.002	0.012	0.360	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.348	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW167	15 May 2019	0356_CNN0230_GW01_190515	Normal	NSW_0356_PFAS			<0.01	*0.21*	0.02	**0.23**	0.74	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.51	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW167	21 Jul 2022	0356_MW167_220721	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	03 Sep 2020	0356_MW09D_200903	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	20 Jul 2022	0356_MW187D_220720	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	19 Jul 2023	0356_MW187D_230719	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_MW187S_220720	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC102_220720	Field_D	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC202_220720	Interlab_D	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.1	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW187S	19 Jul 2023	0356_MW187S_230719	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	03 Aug 2020	0356_QC251_200903	Interlab_D	NSW_0356_PFAS			<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05	
MW188D	03 Aug 2020	QC251_200903	Interlab_D	NSW_0356_PFAS			<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05	
MW188D	03 Sep 2020	0356_MW10D_200903	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	22 Jul 2022	0356_MW188D_220722	Normal	NSW_0356_PFASOMP_22			<0.01	*0.02*	<0.01	0.02	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	19 Jul 2023	0356_MW188D_230719	Normal	NSW_0356_PFASOMP_23			<0.01	*0.03*	<0.01	0.03	0.19	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_MW10S_200903	Normal	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_QC151_200903	Field_D	NSW_0356_PFAS			<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	22 Jul 2022	0356_MW188S_220722	Normal	NSW_0356_PFASOMP_22			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	19 Jul 2023	0356_MW188S_230719	Normal	NSW_0356_PFASOMP_23			<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Table T6 - Historical Surface Water and Wastewater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**10**			**2**																									
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
OTH006	03 Apr 2019	0356_OTH006_190403	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_OTH006_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC152_201019	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC252_201019	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
OTH006	20 Jul 2022	0356_OTH006_220720	Normal	NSW_0356_PFASOMP_22		0.01	*0.12*	0.11	0.23	0.27	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	18 Jan 2023	0356_OTH006_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.16*	0.04	0.20	0.20	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Jul 2023	0356_OTH006_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	24 Jan 2024	0356_OTH006_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.12*	0.03	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	08 Oct 2018	0356_SW002_SW_181008	Normal	NSW_0356_PFAS		0.01	*0.33*	0.34	0.67	0.68	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	28 Feb 2019	0356_SW002_190228	Normal	NSW_0356_PFAS		0.007	*0.180*	0.210	0.390	0.465	0.013	0.011	0.005	<0.002	<0.01	0.009	0.026	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW002	24 Apr 2019	0356_SW002_190424	Normal	NSW_0356_PFAS		0.02	*0.31*	0.2	0.51	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	16 Apr 2020	0356_SW002_200416	Normal	NSW_0356_PFAS		<0.01	*0.26*	0.24	0.50	0.54	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_SW002_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.33*	0.24	0.57	0.65	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC104_220721	Field_D	NSW_0356_PFASOMP_22		0.01	*0.34*	0.21	0.55	0.60	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC204_220721	Interlab_D	NSW_0356_PFASOMP_22		0.01	*0.42*	0.24	0.66	0.76	0.02	0.02	0.01	<0.02	<0.02	<0.02	0.04	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW002	17 Jan 2023	0356_SW002_230117	Normal	NSW_0356_PFASOMP_23		0.05	*0.85*	0.81	1.66	2.13	0.05	0.07	0.04	<0.02	<0.1	0.04	0.20	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jul 2023	0356_SW002_230717	Normal	NSW_0356_PFASOMP_23		0.07	*1.00*	1.20	**2.20**	2.61	0.03	0.07	0.03	<0.02	<0.1	0.03	0.15	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	23 Jan 2024	0356_SW002_240123	Normal	NSW_0356_PFASOMP_24		0.04	*0.78*	0.45	1.23	1.37	<0.02	<0.02	0.03	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	30 Nov 2018	0356_SW003_181130	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Apr 2019	0356_SW003_190417	Normal	NSW_0356_PFAS		0.02	*0.24*	0.23	0.47	0.61	0.06	<0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	21 Jul 2022	0356_SW003_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jan 2023	0356_SW003_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_SW003_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC102_230717	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC202_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW003	23 Jan 2024	0356_SW003_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	30 Nov 2018	0356_SW004_181130	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2019	0356_SW004_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2020	0356_SW004_200418	Normal	NSW_0356_PFAS		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW004	19 Jul 2022	0356_SW004_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jan 2023	0356_SW004_230119	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jul 2023	0356_SW004_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	30 Nov 2018	0356_SW005_181130	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2019	0356_SW005_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2019	0356_QC241_SW_190418	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW005	18 Apr 2020	0356_SW005_200418	Normal	NSW_0356_PFAS		<0.002	*0.009*	0.004	0.013	0.013	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW005	19 Jul 2022	0356_SW005_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	19 Jul 2023	0356_SW005_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	08 Oct 2018	0356_SMA13_SW_181008	Normal	NSW_0356_PFAS		<0.01	*0.23*	0.12	0.35	0.35	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	24 Apr 2019	0356_SMA13_SW_190424	Normal	NSW_0356_PFAS		0.01	*0.24*	0.13	0.37	0.38	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	16 Apr 2020	0356_SMA13_200416	Normal	NSW_0356_PFAS		<0.01	*0.24*	0.11	0.35	0.35	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	16 Apr 2020	0356_QC101_200416	Field_D	NSW_0356_PFAS		<0.01	*0.27*	0.12	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	21 Jul 2022	0356_SW026_220721	Normal	NSW_0356_PFASOMP_22		0.02	*0.76*	0.44	1.20	1.38	0.06	0.03	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jan 2023	0356_SW026_230117	Normal	NSW_0356_PFASOMP_23		0.02	*0.63*	0.28	0.91	1.08	0.04	0.03	<0.02	<0.02	<0.1	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jul 2023	0356_SW026_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.33*	0.16	0.49	0.49	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	23 Jan 2024	0356_SW026_240123	Normal	NSW_0356_PFASOMP_24		0.02	*0.89*	0.32	1.21	1.28	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_SWA7_SW_181025	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC134_SW_181025	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC234_SW_181025	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	17 Apr 2019	0356_SMA7_SW_190417	Normal	NSW_0356_PFAS		<0.01	*0.03*	<0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	21 Jul 2022	0356_SW028_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_SW028_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC101_230117	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC201_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	18 Jul 2023	0356_SW028_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC103_230718	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC203_230718	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	23 Jan 2024	0356_SW028_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T6 - Historical Surface Water and Wastewater Analytical Results

							PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids												PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
							Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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							0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water							**10**			**2**																												
PFAS NEMP 2020 Freshwater 99%							*19*	*0.00023*																														
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																		
SW028	23 Jan 2024	0356_QC100_240123	Field_D	NSW_0356_PFASOMP_24	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	23 Jan 2024	0356_QC200_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW032	22 Mar 2019	0356_SW032_190322	Normal	NSW_0356_PFAS	<0.01	*0.07*	0.02	0.09	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	21 Jul 2022	0356_SW032_220721	Normal	NSW_0356_PFASOMP_22	0.03	*0.86*	0.71	1.57	1.81	0.04	0.06	<0.02	<0.02	<0.1	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jan 2023	0356_SW032_230117	Normal	NSW_0356_PFASOMP_23	0.08	*2.13*	1.69	**3.82**	4.85	0.17	0.21	0.07	<0.02	<0.1	0.06	0.40	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jul 2023	0356_SW032_230717	Normal	NSW_0356_PFASOMP_23	0.04	*2.02*	1.01	**3.03**	3.38	0.05	0.07	0.04	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	23 Jan 2024	0356_SW032_240123	Normal	NSW_0356_PFASOMP_24	<0.01	*0.32*	0.07	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	30 Nov 2018	0356_SMA8_SW_181130	Normal	NSW_0356_PFAS	<0.01	*0.16*	0.09	0.25	0.32	0.03	<0.02	<0.02	<0.02	<0.1	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	08 Feb 2019	0356_SMA8_SW_190208	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2019	0356_SMA8_SW_190424	Normal	NSW_0356_PFAS	<0.01	*0.21*	0.1	0.31	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2020	0356_SMA8_200424	Normal	NSW_0356_PFAS	0.01	*0.43*	0.44	0.87	0.96	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	19 Oct 2020	0356_SMA8_201019	Normal	NSW_0356_PFAS	<0.01	*0.35*	0.36	0.71	0.81	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	21 Jul 2022	0356_SW034_220721	Normal	NSW_0356_PFASOMP_22	0.01	*0.35*	0.24	0.59	0.64	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_SW034_230117	Normal	NSW_0356_PFASOMP_23	0.04	*1.35*	0.55	1.90	2.29	0.05	0.05	0.03	<0.02	<0.1	0.04	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC103_230117	Field_D	NSW_0356_PFASOMP_23	0.04	*1.33*	0.52	1.85	2.21	0.04	0.05	0.03	<0.02	<0.1	0.03	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC203_230117	Interlab_D	NSW_0356_PFASOMP_23	0.03	*1.1*	0.73	1.8	2.2	0.07	0.05	0.03	<0.02	<0.02	0.04	0.12	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW034	17 Jul 2023	0356_SW034_230717	Normal	NSW_0356_PFASOMP_23	0.02	*0.54*	0.39	0.93	1.06	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	09 Apr 2024	0356_SW034_202404091500	Normal	NSW_0356_PFASOMP_24	<0.01	*0.22*	0.28	0.50	0.53	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	13 Apr 2024	0356_SW034_202404132200	Normal	NSW_0356_PFASOMP_24	<0.01	*0.22*	0.25	0.47	0.50	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Apr 2024	0356_SW034_202404172300	Normal	NSW_0356_PFASOMP_24	<0.01	*0.27*	0.26	0.53	0.55	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	18 Apr 2024	0356_SW034_202404180000	Normal	NSW_0356_PFASOMP_24	<0.01	*0.28*	0.27	0.55	0.57	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	22 Apr 2024	0356_SW034_202404221300	Normal	NSW_0356_PFASOMP_24	<0.01	*0.18*	0.18	0.36	0.38	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	04 May 2024	0356_SW034_202405041845	Normal	NSW_0356_PFASOMP_24	<0.01	*0.17*	0.17	0.34	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	04 May 2024	0356_SW034_202405042030	Normal	NSW_0356_PFASOMP_24	<0.01	*0.23*	0.29	0.52	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	04 May 2024	0356_SW034_202405042315	Normal	NSW_0356_PFASOMP_24	<0.01	*0.24*	0.34	0.58	0.64	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	05 May 2024	0356_SW034_202405050200	Normal	NSW_0356_PFASOMP_24	<0.01	*0.23*	0.32	0.55	0.59	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	06 May 2024	0356_SW034_202405060845	Normal	NSW_0356_PFASOMP_24	<0.01	*0.27*	0.37	0.64	0.70	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	06 May 2024	0356_SW034_202405060945	Normal	NSW_0356_PFASOMP_24	<0.01	*0.28*	0.36	0.64	0.68	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	06 May 2024	0356_SW034_202405061045	Normal	NSW_0356_PFASOMP_24	<0.01	*0.25*	0.35	0.60	0.66	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_RESI_SW035_190411	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	19 Jul 2022	0356_SW035_220719	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jan 2023	0356_SW035_230118	Normal	NSW_0356_PFASOMP_23	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jul 2023	0356_SW035_230718	Normal	NSW_0356_PFASOMP_23	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	24 Jan 2024	0356_SW035_240124	Normal	NSW_0356_PFASOMP_24	<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	11 Apr 2019	0356_RESI_SW036_190411	Normal	NSW_0356_PFAS	<0.01	*0.20*	0.09	0.29	0.29	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	19 Jul 2022	0356_SW036_220719	Normal	NSW_0356_PFASOMP_22	<0.01	*0.23*	0.15	0.38	0.41	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jan 2023	0356_SW036_230118	Normal	NSW_0356_PFASOMP_23	0.03	*0.94*	0.58	1.52	1.75	0.02	0.04	<0.02	<0.02	<0.1	0.03	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jul 2023	0356_SW036_230718	Normal	NSW_0356_PFASOMP_23	0.02	*0.58*	0.37	0.95	1.11	0.03	0.02	<0.02	<0.02	<0.1	0.03	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	24 Jan 2024	0356_SW036_240124	Normal	NSW_0356_PFASOMP_24	0.03	*0.79*	0.81	1.60	2.02	0.06	0.05	0.02	<0.02	<0.1	0.06	0.16	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	12 Apr 2019	0356_RESI_SW039_190412	Normal	NSW_0356_PFAS	0.02	*0.08*	<0.02	0.08	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	0.02	*0.07*	<0.01	0.07	0.12	<0.01	<0.01	<0.01	<0.02	<0.02	0.02	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW039	20 Apr 2020	0356-RESI-SW039-200420	Normal	NSW_0356_PFAS	<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	20 Jul 2022	0356_SW039_220720	Normal	NSW_0356_PFASOMP_22	<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jan 2023	0356_SW039_230118	Normal	NSW_0356_PFASOMP_23	<0.01	*0.03*	0.01	0.04	0.10	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jul 2023	0356_SW039_230718	Normal	NSW_0356_PFASOMP_23	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	24 Jan 2024	0356_SW039_240124	Normal	NSW_0356_PFASOMP_24	<0.01	*0.03*	<0.01	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	07 May 2019	0356_SW040_190507	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	21 Jul 2022	0356_SW040_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	17 Jan 2023	0356_SW040_230117	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	18 Jul 2023	0356_SW040_230718	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	23 Jan 2024	0356_SW040_240123	Normal	NSW_0356_PFASOMP_24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_RESI_SW041_190417	Normal	NSW_0356_PFAS	0.02	*0.02*	<0.02	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	0.01	*0.02*	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	22 Apr 2020	0356_RESI_SW041_200422	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	22 Apr 2020	0356_QC204_200422	Interlab_D	NSW_0356_PFAS	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	0.02	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW064	20 Jul 2022	0356_SW064_220720	Normal	NSW_0356_PFASOMP_22	<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	18 Jan 2023	0356_SW064_230118	Normal	NSW_0356_PFASOMP_23	0.02	*0.06*	0.02	0.08	0.33	0.09	<0.02	<0.02	<0.02	<0.1	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T6 - Historical Surface Water and Wastewater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**10**			**2**																										
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
SW064	19 Jul 2023	0356_SW064_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	24 Jan 2024	0356_SW064_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.03*	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	17 Apr 2019	0356_RESI_SW042_190417	Normal	NSW_0356_PFAS		0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_SW065_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC101_220720	Field_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC201_220720	Interlab_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.05	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	18 Jan 2023	0356_SW065_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	<0.01	0.03	0.11	0.05	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_SW065_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC105_230719	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC205_230719	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	24 Jan 2024	0356_SW065_240124	Normal	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW114	21 Jul 2022	0356_SW114_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	<0.01	0.01	0.03	<0.02	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW115	21 Jul 2022	0356_SW115_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.49*	0.33	0.82	0.86	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW116	21 Jul 2022	0356_SW116_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Oct 2020	0356_SW553_201019	Normal	NSW_0356_PFAS		0.01	*0.25*	0.28	0.53	0.65	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	20 Jul 2022	0356_SW553_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.08*	0.07	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	18 Jan 2023	0356_SW553_230118	Normal	NSW_0356_PFASOMP_23		0.01	*0.30*	0.20	0.50	0.73	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.18	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Jul 2023	0356_SW553_230719	Normal	NSW_0356_PFASOMP_23		0.01	*0.22*	0.27	0.49	0.56	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	21 Jul 2022	0356_SW555_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	17 Jul 2023	0356_SW555_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	23 Jan 2024	0356_SW555_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	19 Jul 2023	0356_SW563_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	24 Jan 2024	0356_SW563_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Table T7 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS		<0.0002	0.0024	0.0004	0.0028	-	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS		<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22		0.0002	0.0428	0.0018	0.0446	0.0448	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22		0.0002	0.0345	0.0017	0.0362	0.0372	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22		<0.0001	0.037	0.0017	0.039	0.04	<0.0001	<0.0001	0.0002	0.0003	0.0002	0.0002	0.0002	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0060	0.0018	0.0078	0.0088	<0.0002	<0.0002	<0.0002	0.0007	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0013	0.0003	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	23 Jan 2024	0356_SD002_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0038	0.0005	0.0043	0.0045	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS		<0.0002	0.0009	<0.0002	0.0009	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS		<0.0002	0.0013	<0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS		<0.0002	0.0334	0.0035	0.0369	0.0386	0.0002	<0.0002	<0.0002	0.0004	<0.001	0.0003	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0026	<0.0002	0.0026	0.0026	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0032	0.0002	0.0034	0.0034	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0002	<0.0005	<0.005	<0.002	<0.002	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD003	23 Jan 2024	0356_SD003_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	NSW_0356_PFASOMP_24		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.0001	0.0011	<0.0001	0.0011	0.0011	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD004_190117	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD005_190118	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190118	Field_D	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190118	Interlab_D	NSW_0356_PFAS		<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190418	Interlab_D	NSW_0356_PFAS		<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0018	<0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS		<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0044	0.0007	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0044	0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	12 Apr 2019	0356_RESI_SD039_190412	Normal	NSW_0356_PFAS		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS		0.0002	0.0019	<0.0001	0.0019	0.002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
SD039	20 Apr 2020	0356_RESI_SD039_200420	Normal	NSW_0356_PFAS		0.0003	0.0036	<0.0002	0.0036	0.0039	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0038	<0.0002	0.0038	0.0038	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23		<0.0010	0.0029	<0.0010	0.0029	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0036	<0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Table T7 - Historical Sediment Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	23 Jan 2024	0356_SD002_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.002	<0.005	<0.0002	<0.01	<0.001	<0.0004	<0.005
SD003	23 Jan 2024	0356_SD003_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD004_190117	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD005_190118	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190118	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190118	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190418	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	12 Apr 2019	0356_RESI_SD039_190412	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD039	20 Apr 2020	0356_RESI_SD039_200420	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23	<0.0010	<0.0025	<0.0010	<0.0025	<0.0025	<0.0010	<0.0025
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Table T7 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	0.0020	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	23 Jan 2024	0356_SD040_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	17 Apr 2019	0356_RESI_SD041_190417	Normal	NSW_0356_PFAS		<0.0002	0.0034	<0.0002	0.0034	0.0034	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS		<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	22 Apr 2020	0356_RESI_SD041_200422	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0004	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01	<0.0002	<0.0002	<0.0002	<0.0002
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0034	0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0070	<0.0002	0.0070	0.0070	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_190417	Normal	NSW_0356_PFAS		<0.0002	0.0047	<0.0002	0.0047	0.0049	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0075	<0.0002	0.0075	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22		0.0002	0.0081	0.0002	0.0083	0.0085	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22		0.0002	0.0094	0.0002	0.0096	0.0099	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0048	0.0003	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0014	<0.0002	0.0014	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_190411	Normal	NSW_0356_PFAS		<0.0002	0.0012	0.0003	0.0015	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS		<0.0002	0.0017	0.0003	0.0020	0.0020	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0009	<0.0002	0.0009	0.0019	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181008	Normal	NSW_0356_PFAS		<0.0002	0.0020	<0.0002	0.0020	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_190228	Normal	NSW_0356_PFAS		<0.0002	0.0226	0.0011	0.0237	0.0237	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190424	Normal	NSW_0356_PFAS		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200416	Normal	NSW_0356_PFAS		<0.0002	0.0118	<0.0002	0.0118	0.0118	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS		<0.0002	0.0613	0.0004	0.0617	0.0617	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0043	0.0002	0.0045	0.0045	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0051	0.0004	0.0055	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0017	<0.0002	0.0017	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0016	0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_SMA7_SD_181025	Normal	NSW_0356_PFAS		<0.0002	0.0048	0.0006	0.0054	-	<0.0002	<0.0002	<0.0002	0.0017	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS		<0.0002	0.0053	0.0004	0.0057	-	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS		<0.0002	0.0012	<0.0002	0.0012	-	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181025	Interlab_D	NSW_0356_PFAS		<0.0002	0.0027	<0.0002	0.0027	0.0057	<0.0002	<0.0002	<0.0002	0.0030	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01	<0.0002	<0.0002	<0.0002	<0.0002
SD055	28 Feb 2019	0356_SMA7__SD_190228	Normal	NSW_0356_PFAS		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_190417	Normal	NSW_0356_PFAS		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0026	0.0003	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0020	<0.0002	0.0020	0.0038	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0034	<0.0002	0.0034	0.0064	<0.0002	<0.0002	<0.0002	0.0028	<0.001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0020	<0.0001	0.0020	0.0030	<0.0001	<0.0001	<0.0001	0.001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0013	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0009	<0.0001	0.0009	0.0009	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD055	23 Jan 2024	0356_SD055_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0050	<0.0002	0.0050	0.0067	<0.0002	<0.0002	<0.0002	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	NSW_0356_PFASOMP_24		<0.0002	0.0049	<0.0002	0.0049	0.0065	<0.0002	<0.0002	<0.0002	0.0013	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.0001	0.0030	<0.0001	0.0030	0.0049	<0.0001	<0.0001	<0.0001	0.002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD065	08 Oct 2018	0356_SMA8_SD_181008	Normal	NSW_0356_PFAS		<0.0002	0.0024	<0.0002	0.0024	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_190228	Normal	NSW_0356_PFAS		<0.0002	0.0066	0.0005	0.0071	0.0071	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_190424	Normal	NSW_0356_PFAS		<0.0002	0.0048	0.0004	0.0052	0.0052	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Table T7 - Historical Sediment Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	23 Jan 2024	0356_SD040_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	17 Apr 2019	0356_RESI_SD041_190417	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	22 Apr 2020	0356_RESI_SD041_200422	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_190417	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_190411	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181008	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190424	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200416	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_SMA7_SD_181025	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181025	Interlab_D	NSW_0356_PFAS	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD055	28 Feb 2019	0356_SMA7__SD_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_190417	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	23 Jan 2024	0356_SD055_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD065	08 Oct 2018	0356_SMA8_SD_181008	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_190424	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Table T7 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0006	0.0001	0.0007	0.0007	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0005	<0.0002	0.0005	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0064	0.0007	0.0071	0.0073	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_181116	Normal	NSW_0356_PFAS		<0.0002	0.0135	0.0024	0.0159	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	20 Apr 2020	0356_RESI_SD013_200420	Normal	NSW_0356_PFAS		<0.0002	0.0111	0.0013	0.0124	0.0124	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS		<0.0002	0.0118	0.0014	0.0132	0.0132	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0189	0.0021	0.0210	0.0213	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0235	0.0018	0.0253	0.0253	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0045	0.0003	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0023	<0.0002	0.0023	0.0023	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	<0.0002	0.0011	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0092	0.0002	0.0094	0.0094	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22		0.0002	0.0457	0.0023	0.0480	0.0496	<0.0002	<0.0002	<0.0002	0.0010	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23		0.0003	0.0351	0.0023	0.0374	0.0391	<0.0002	<0.0002	<0.0002	0.0007	<0.001	0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0226	0.0013	0.0239	0.0242	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0114	0.0012	0.0126	0.0129	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0046	0.0002	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS		<0.0002	0.0088	0.0008	0.0096	0.0096	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0112	0.0004	0.0116	0.0116	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0052	0.0002	0.0054	0.0054	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	NSW_0356_PFASOMP_24		0.0002	0.0244	0.0053	0.0297	0.0307	<0.0002	0.0002	0.0002	<0.0002	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0046	<0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0044	<0.0002	0.0044	0.0044	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	NSW_0356_PFASOMP_24		0.0002	0.0168	<0.0002	0.0168	0.0170	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Table T7 - Historical Sediment Analytical Results

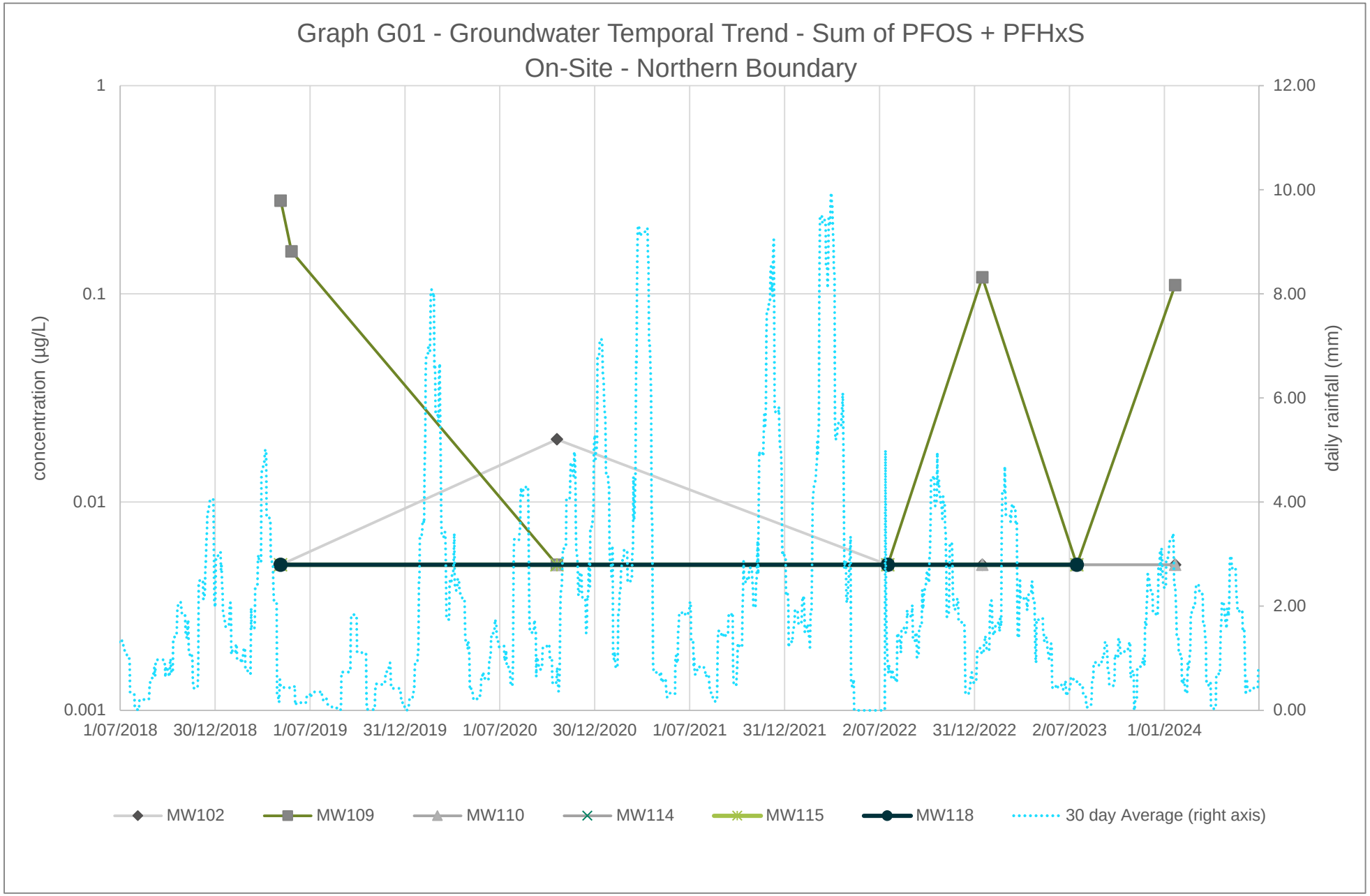
					PFAS - Perfluoroalkyl Sulfonamides						
					Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_181116	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	20 Apr 2020	0356_RESI_SD013_200420	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

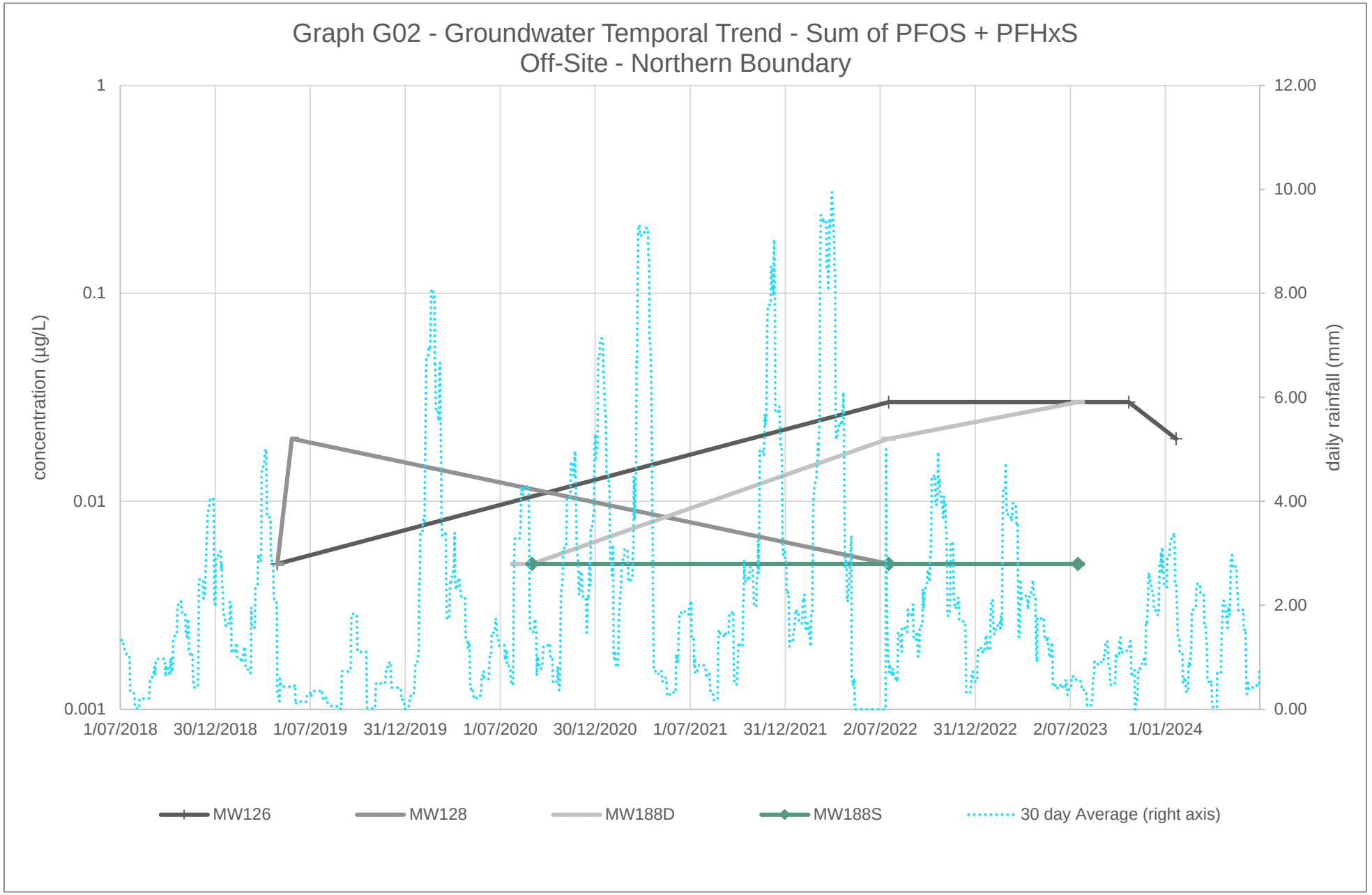
Notes

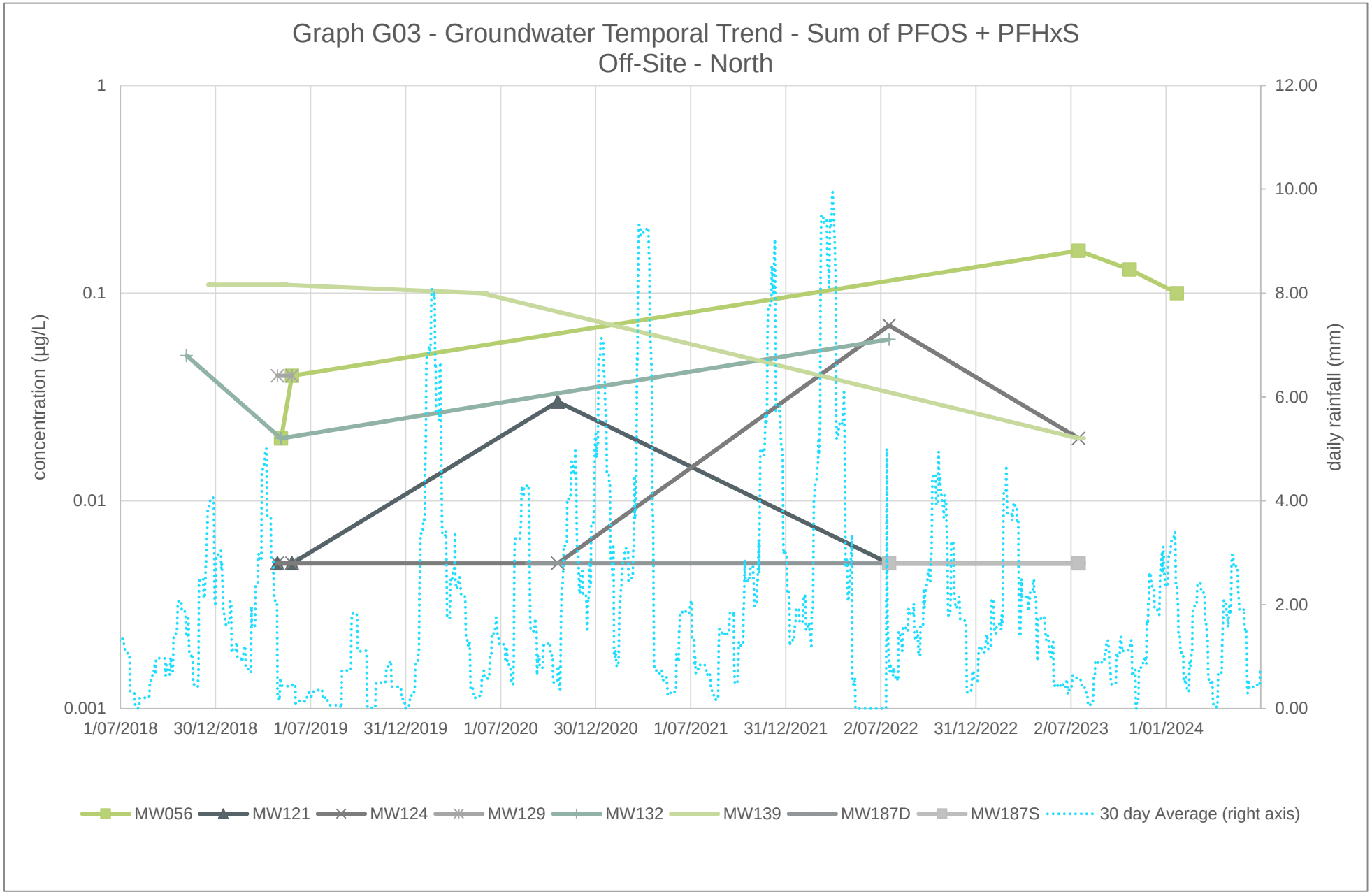
LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

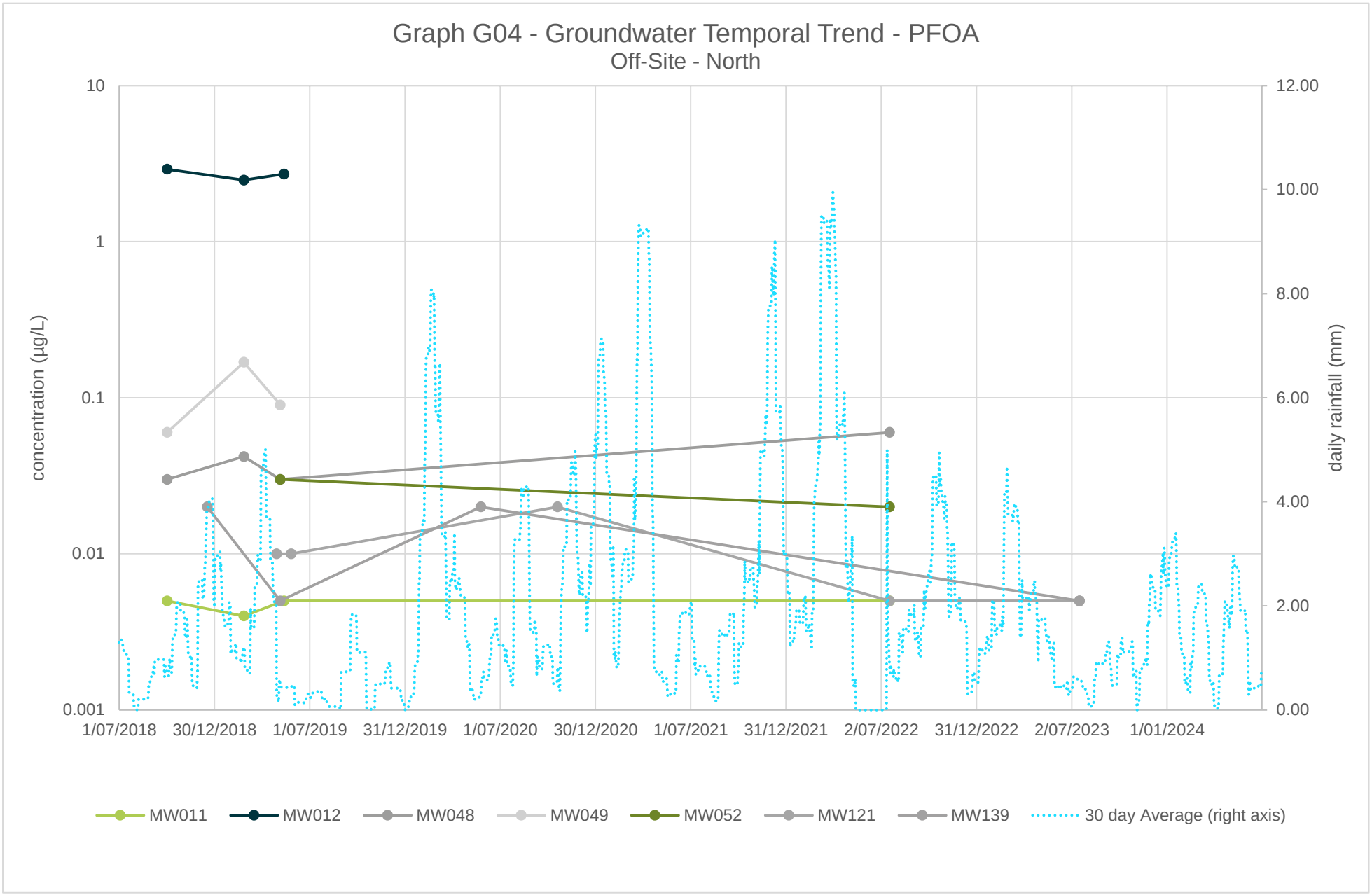
Appendix C

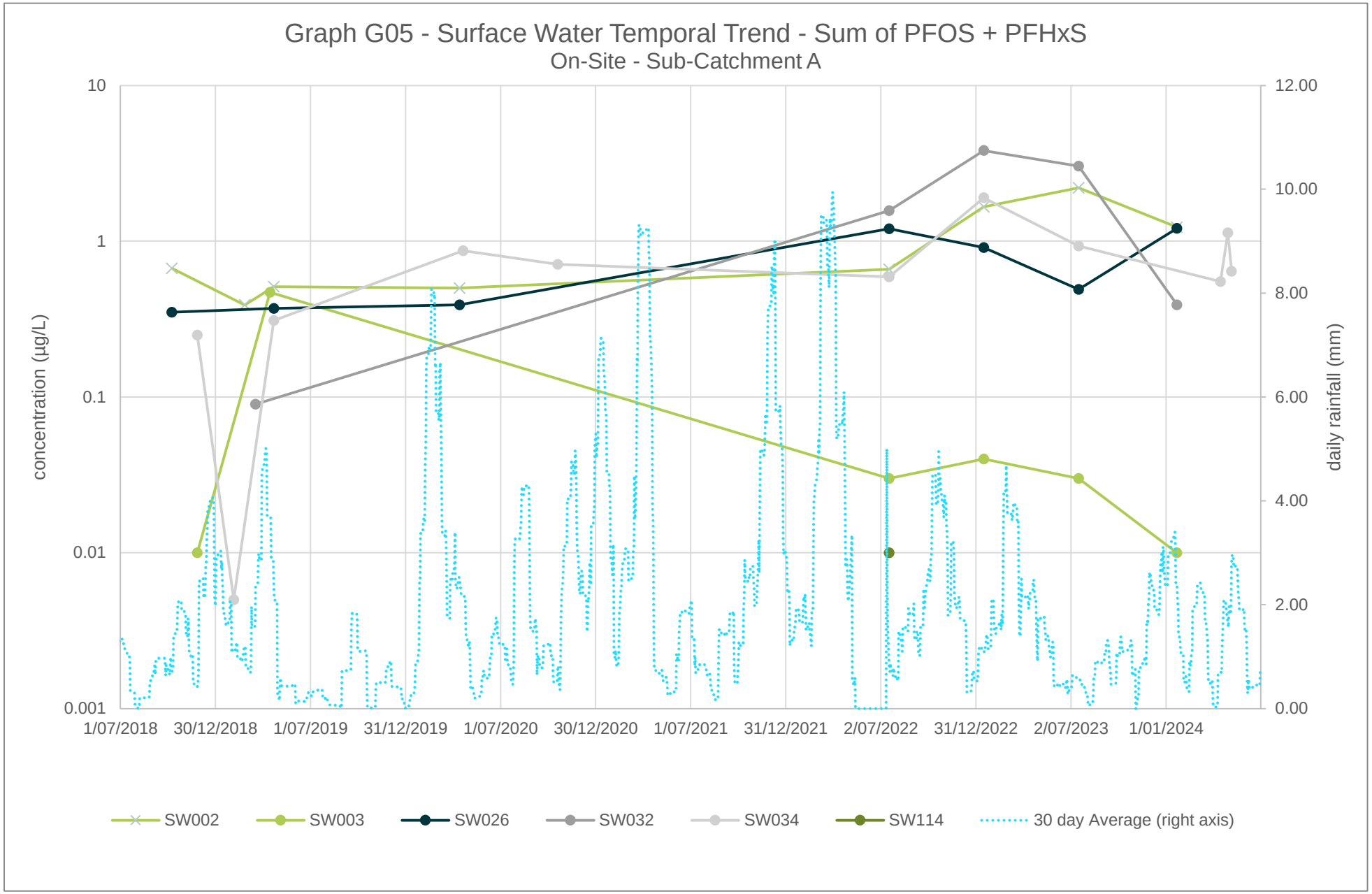
Temporal Trend Graphs and Mann Kendall Analysis

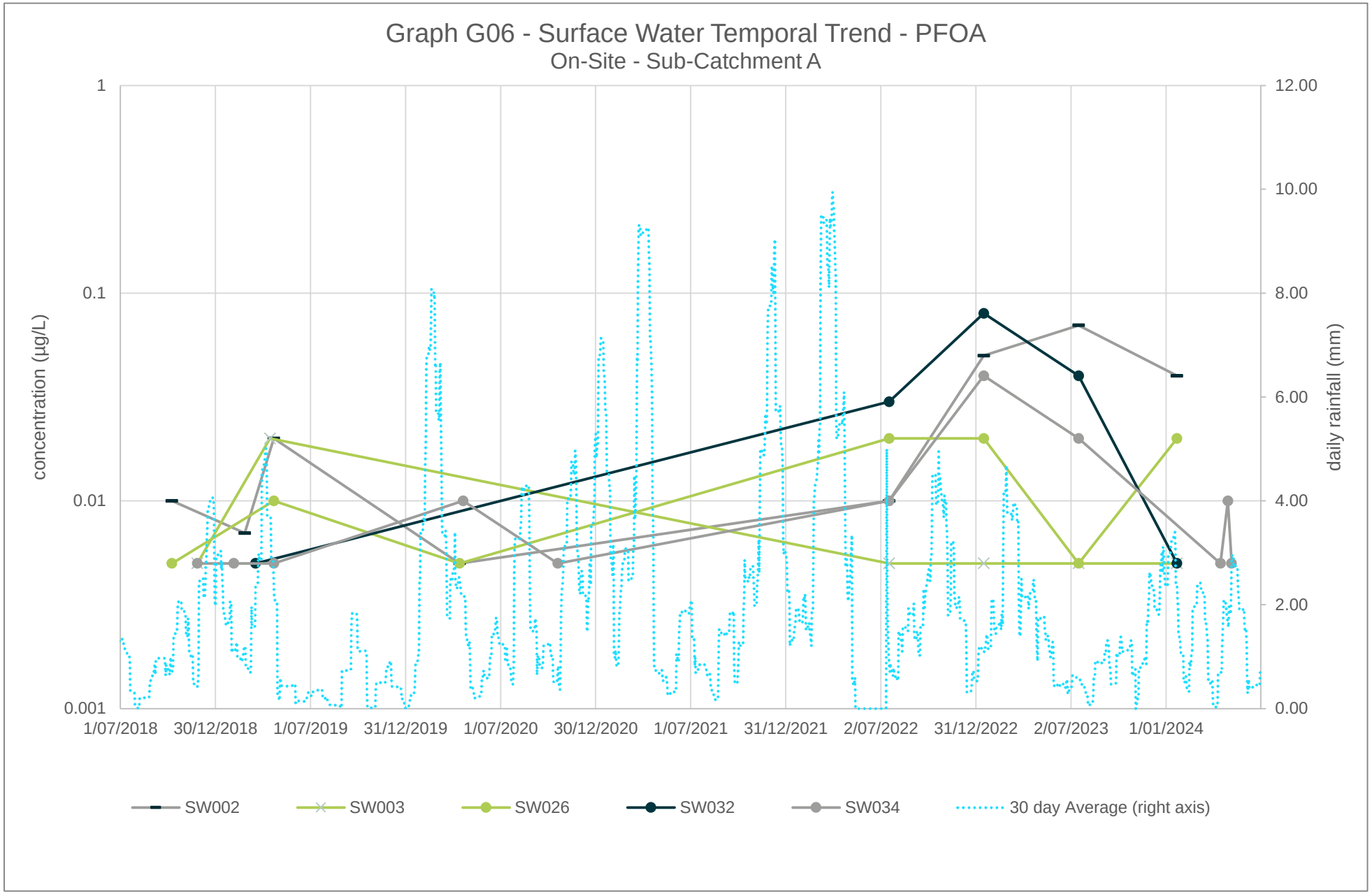

Graph G01 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
On-Site - Northern Boundary
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
MW102
MW109
MW110
MW114
MW115
MW118
30 day Average (right axis)

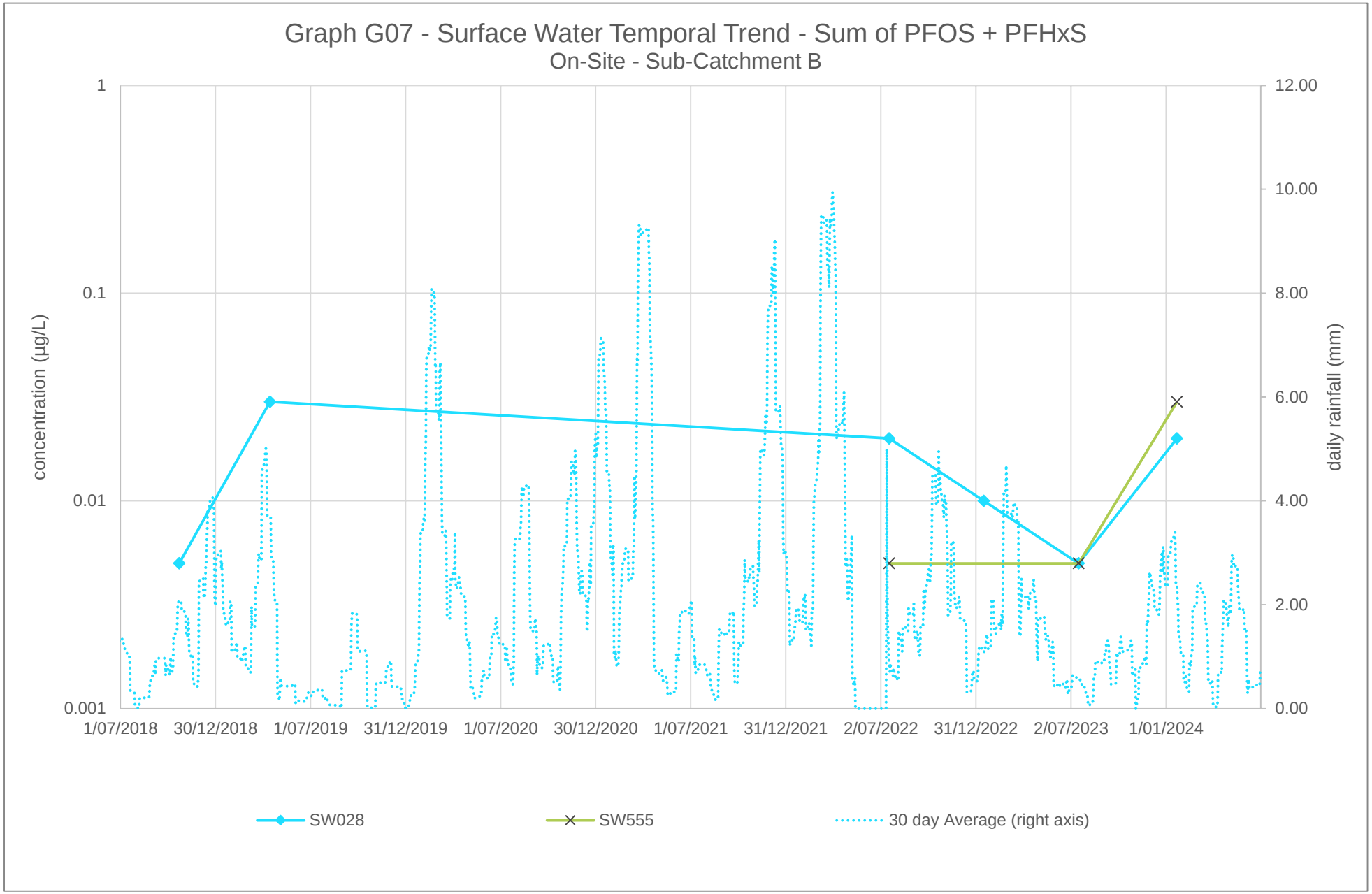

Graph G02 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Off-Site - Northern Boundary
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
MW126
MW128
MW188D
MW188S
30 day Average (right axis)

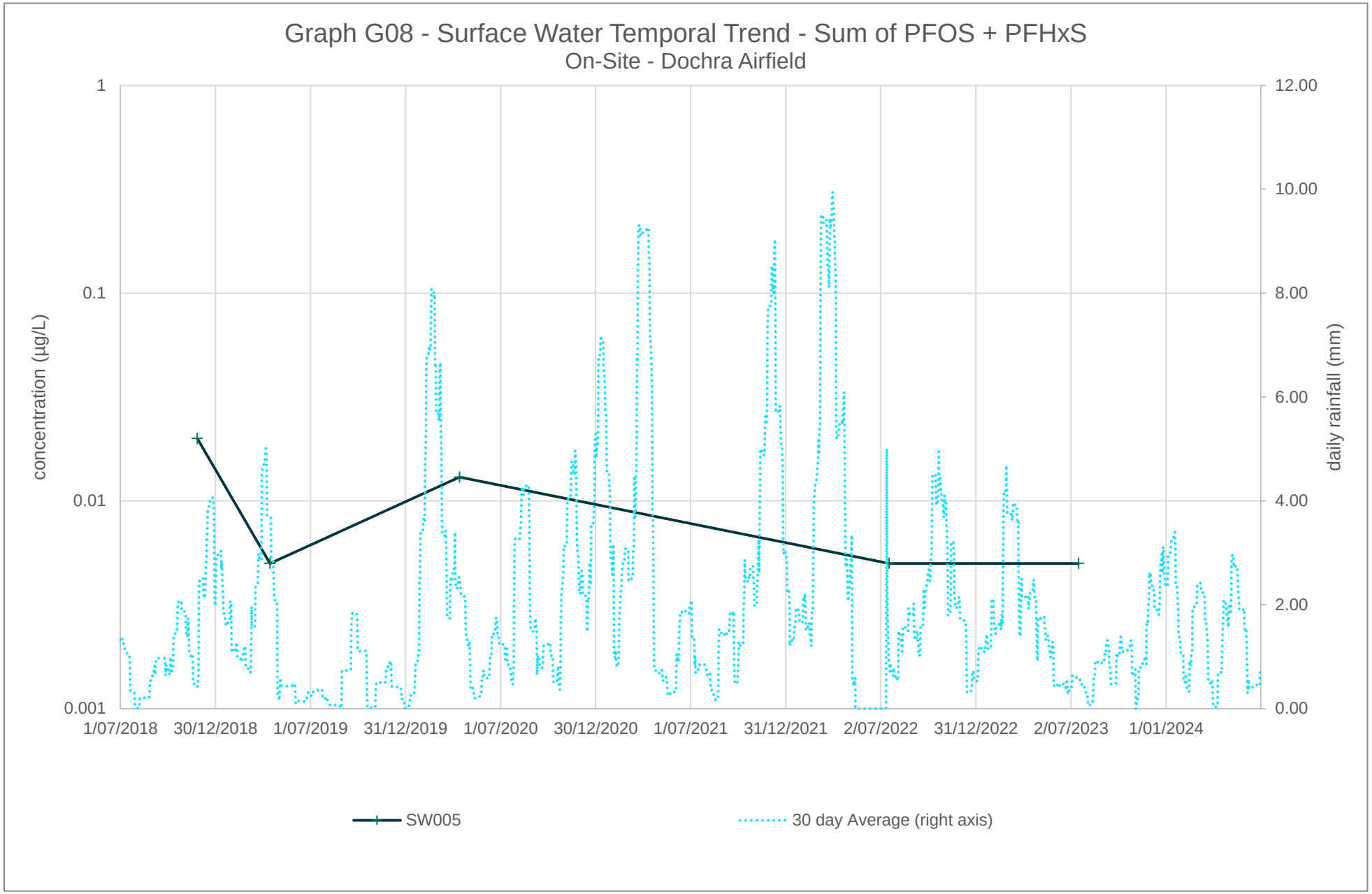

Graph G03 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Off-Site - North
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
MW056
MW121
MW124
MW129
MW132
MW139
MW187D
MW187S
30 day Average (right axis)

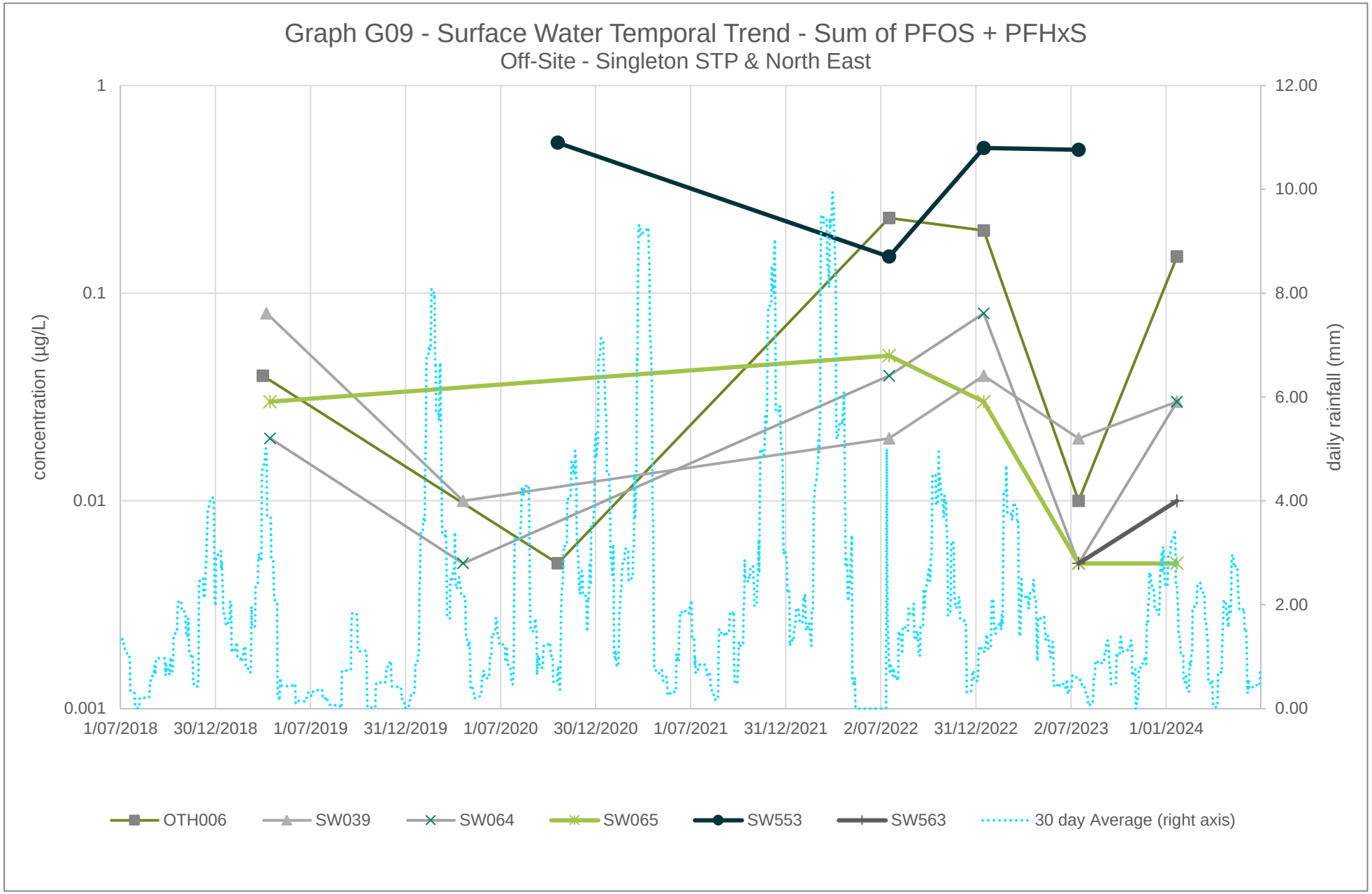

Graph G04 - Groundwater Temporal Trend - PFOA
Off-Site - North
concentration (µg/L)
daily rainfall (mm)
10
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
MW011
MW012
MW048
MW049
MW052
MW121
MW139
30 day Average (right axis)

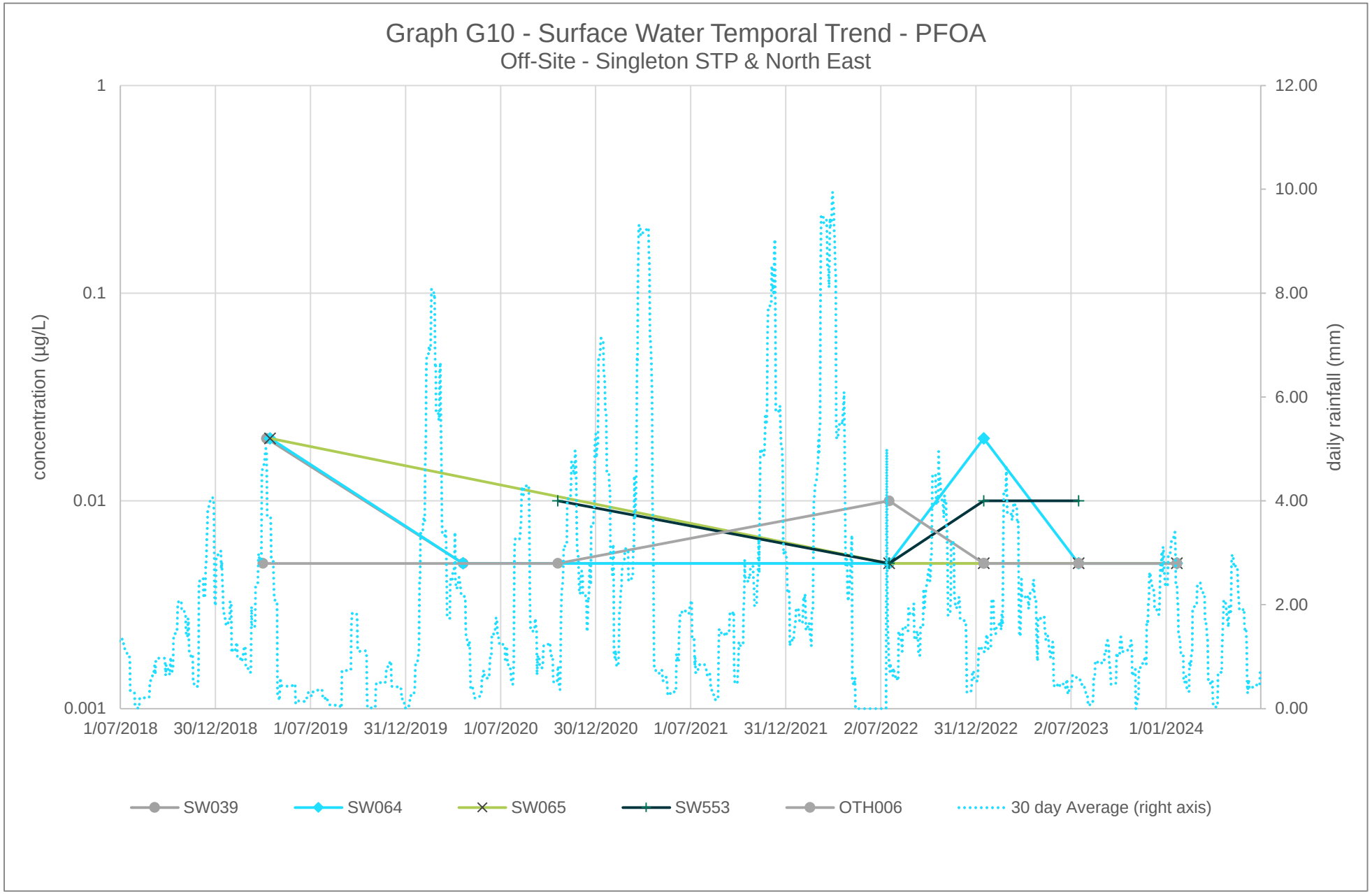

Graph G05 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
On-Site - Sub-Catchment A
concentration (µg/L)
daily rainfall (mm)
10
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW002
SW003
SW026
SW032
SW034
SW114
30 day Average (right axis)

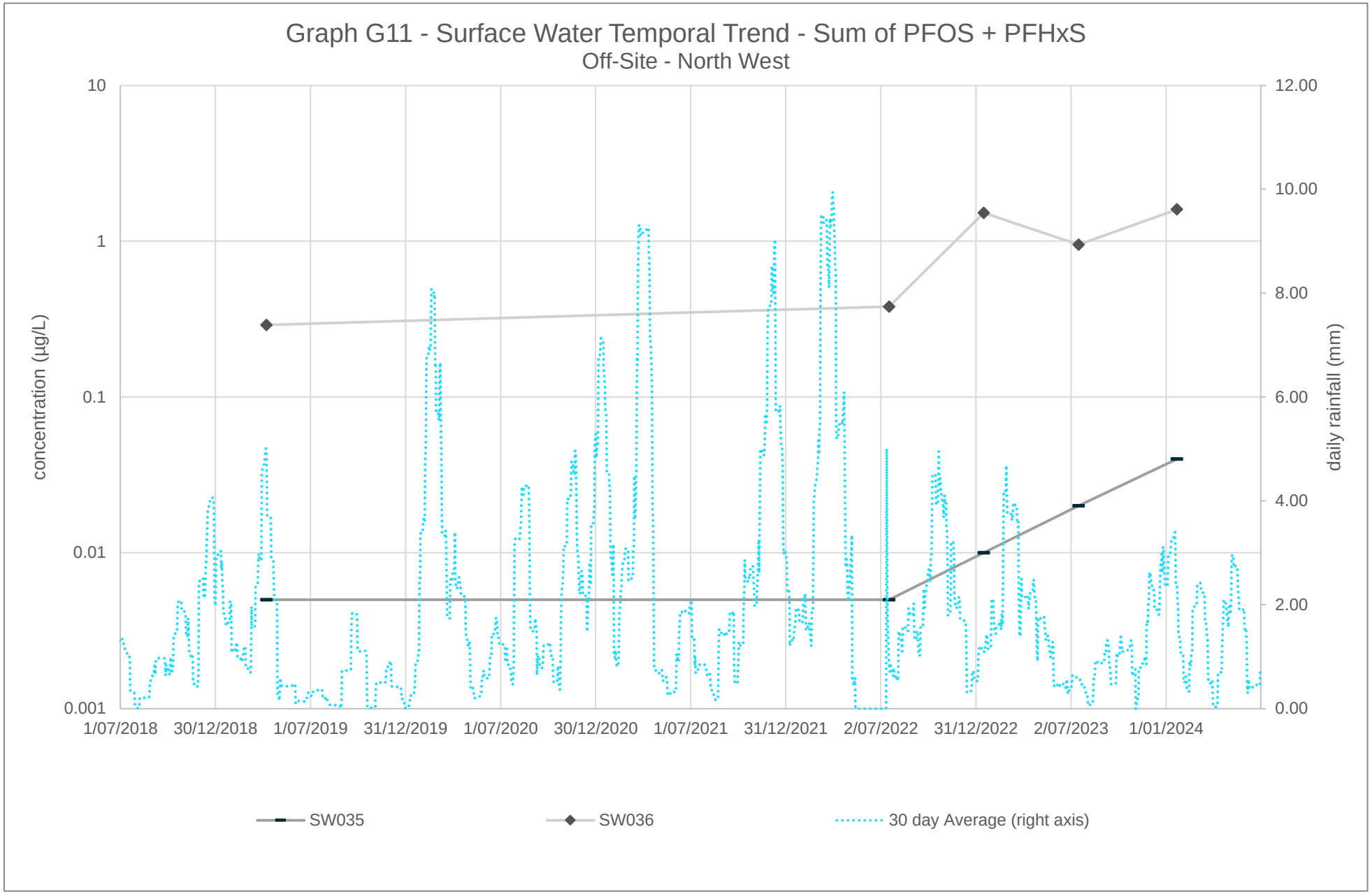

Graph G06 - Surface Water Temporal Trend - PFOA
On-Site - Sub-Catchment A
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW002
SW003
SW026
SW032
SW034
30 day Average (right axis)

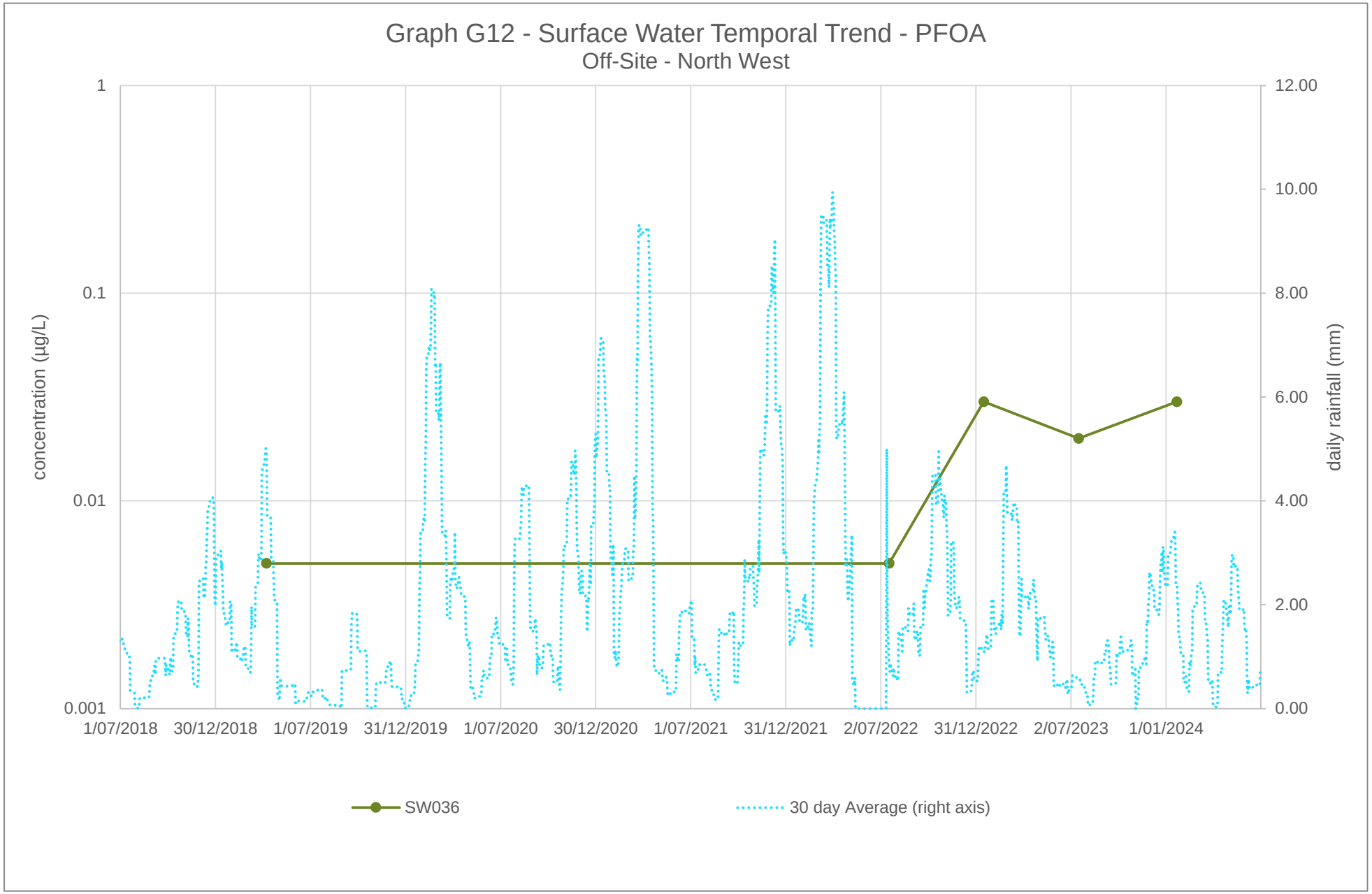

Graph G07 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
On-Site - Sub-Catchment B
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW028
SW555
30 day Average (right axis)

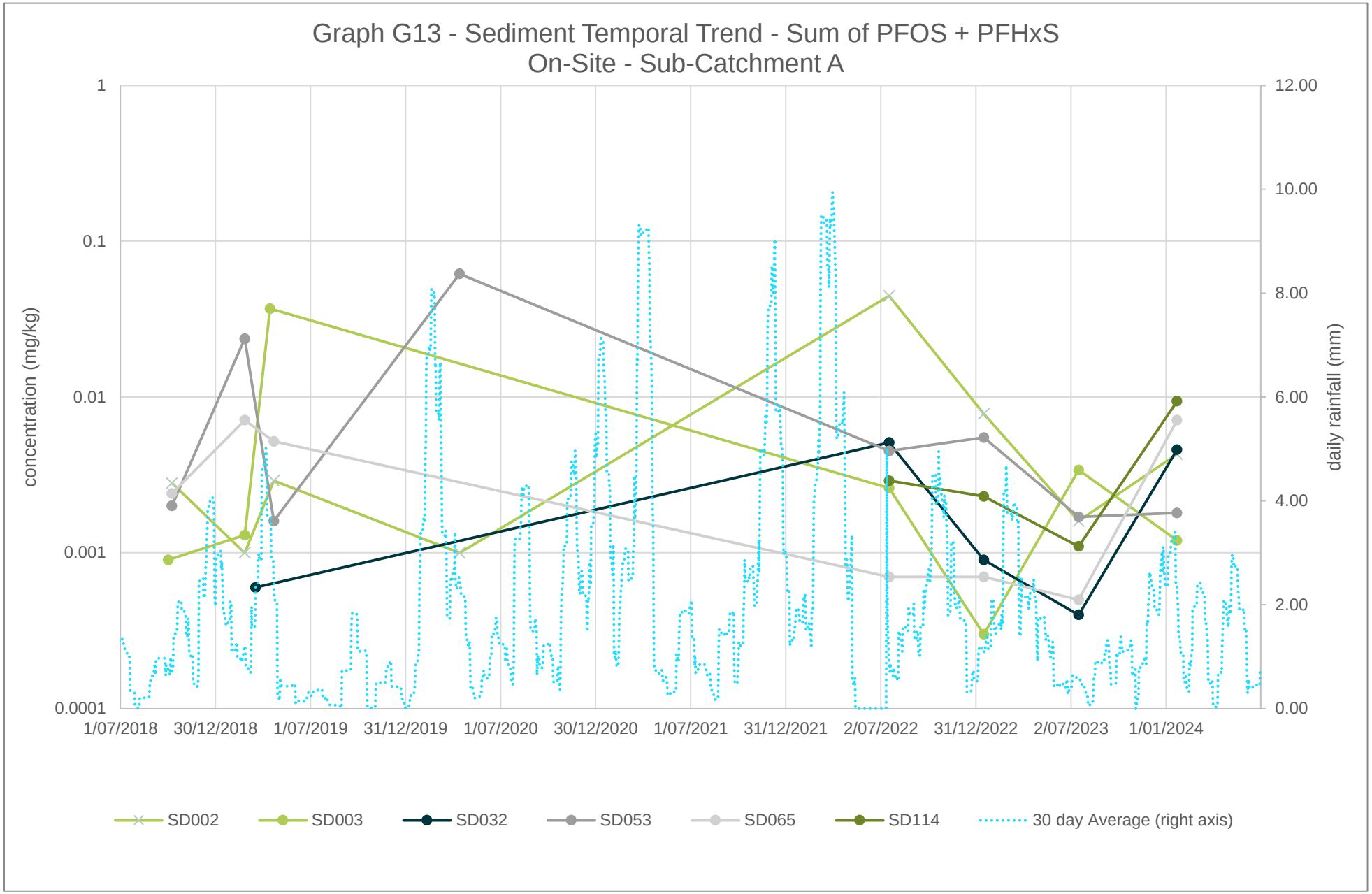

Graph G08 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
On-Site - Dochra Airfield
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW005
30 day Average (right axis)

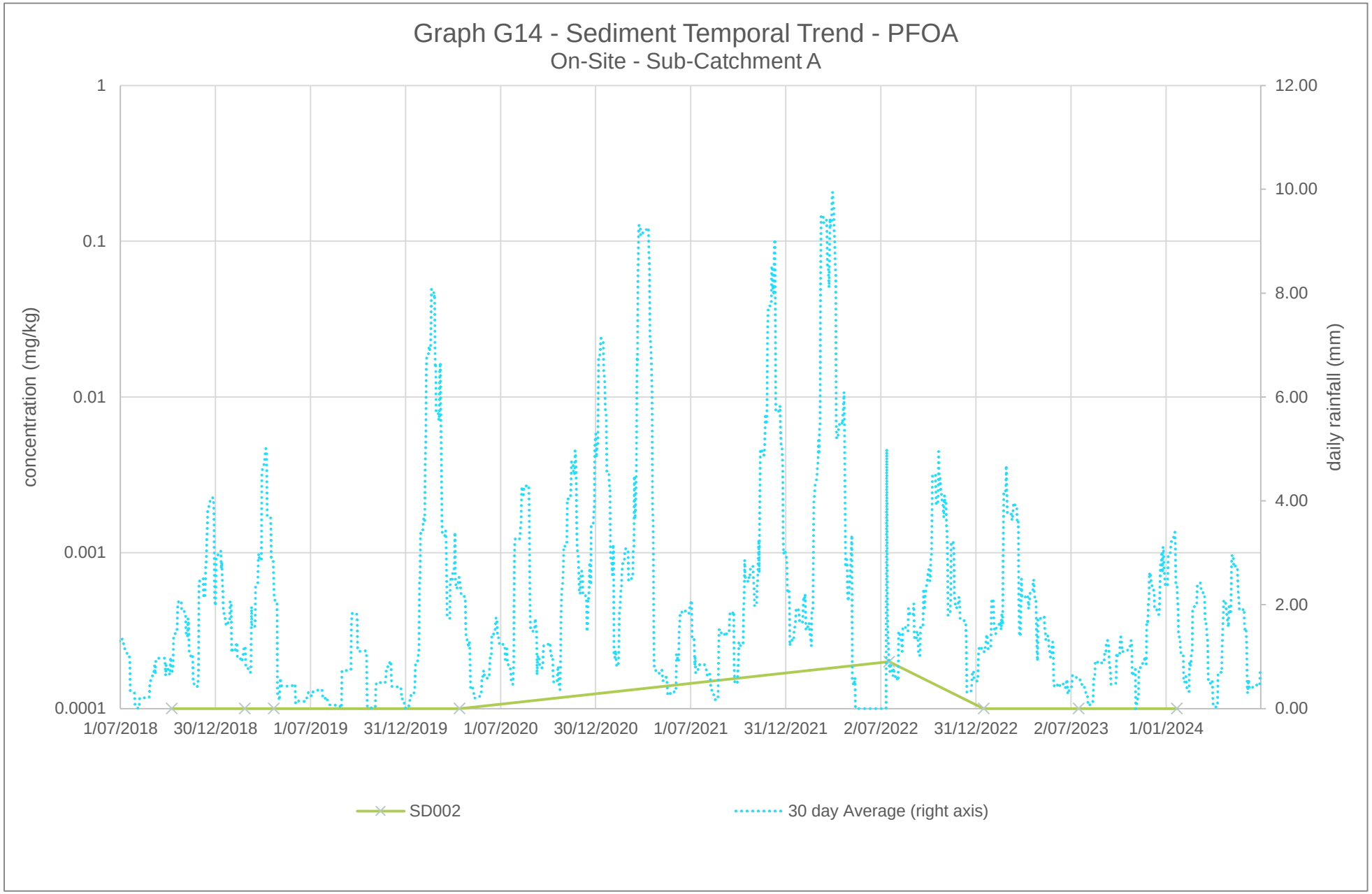

Graph G09 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Off-Site - Singleton STP & North East
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
OTH006
SW039
SW064
SW065
SW553
SW563
30 day Average (right axis)

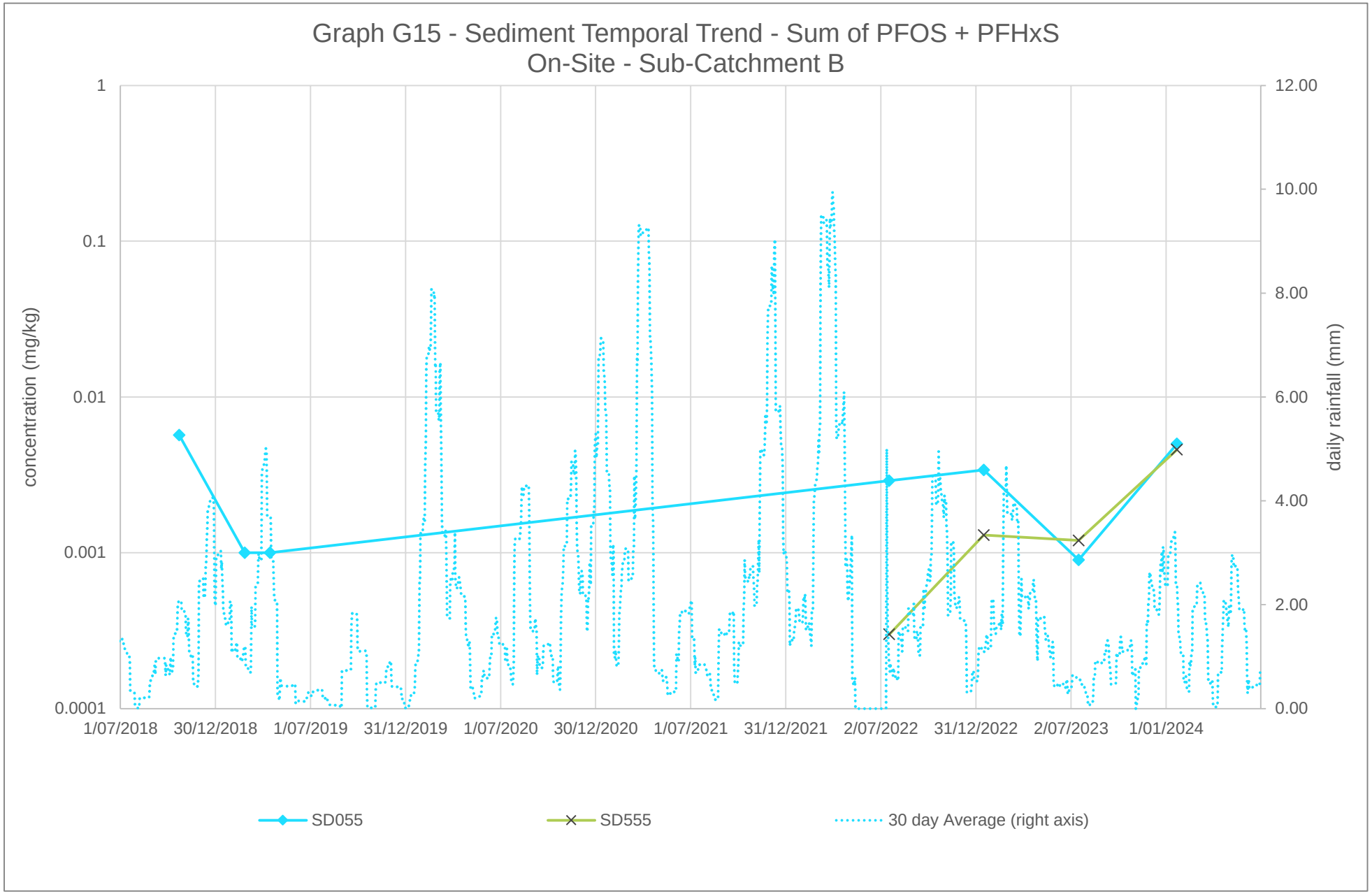

Graph G10 - Surface Water Temporal Trend - PFOA
Off-Site - Singleton STP & North East
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW039
SW064
SW065
SW553
OTH006
30 day Average (right axis)

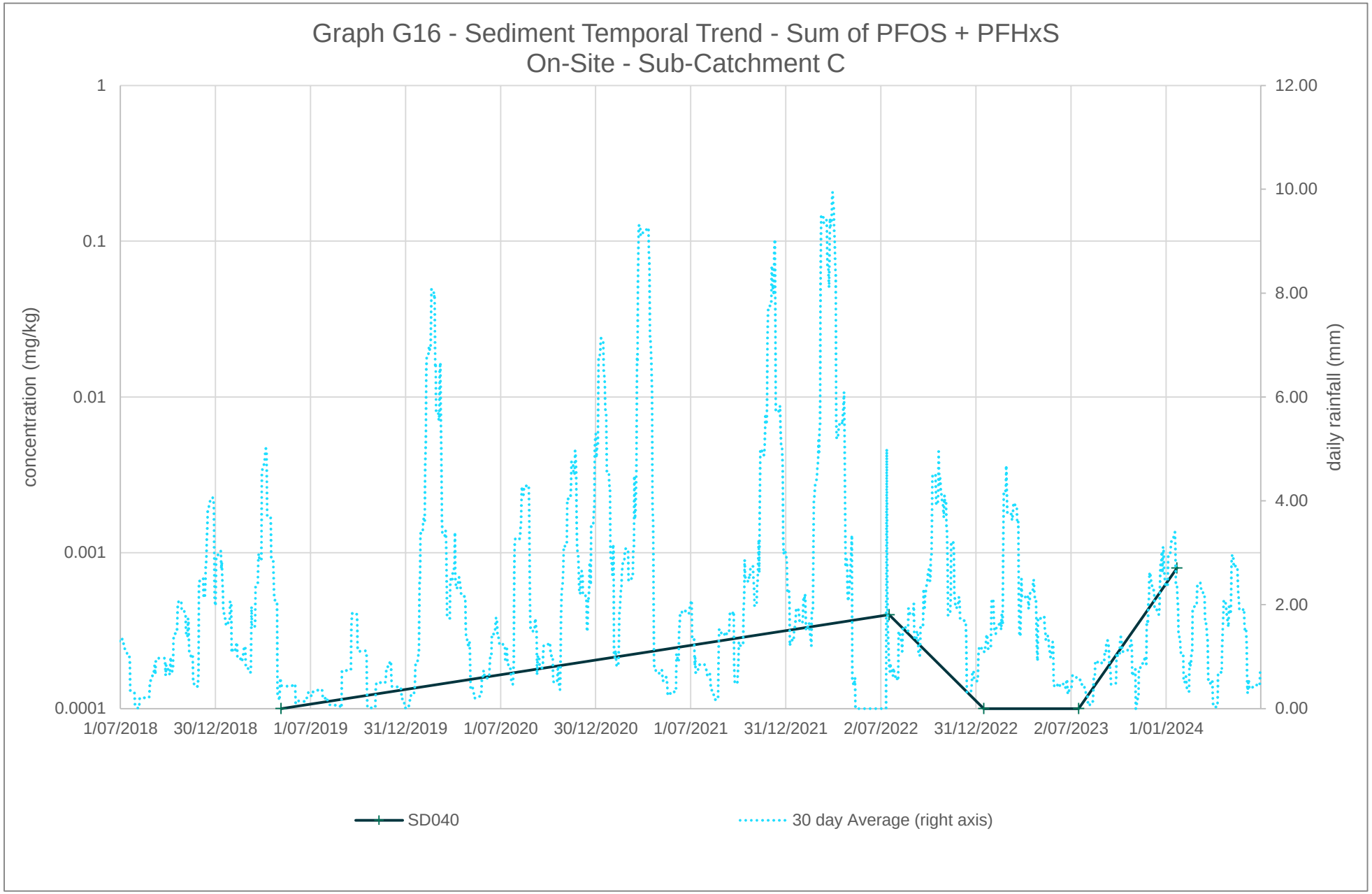

Graph G11 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Off-Site - North West
concentration (µg/L)
daily rainfall (mm)
10
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW035
SW036
30 day Average (right axis)

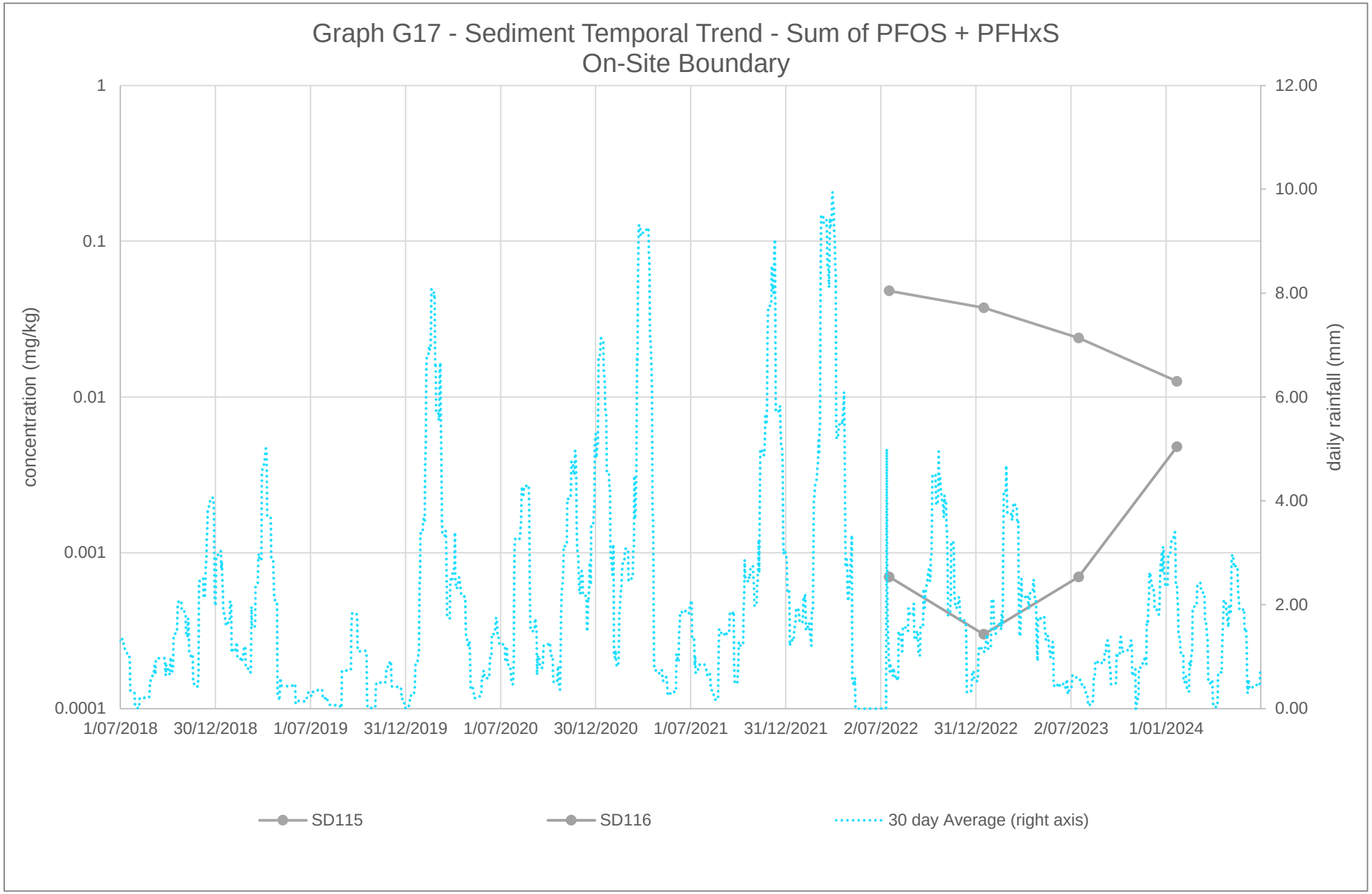

Graph G12 - Surface Water Temporal Trend - PFOA
Off-Site - North West
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SW036
30 day Average (right axis)

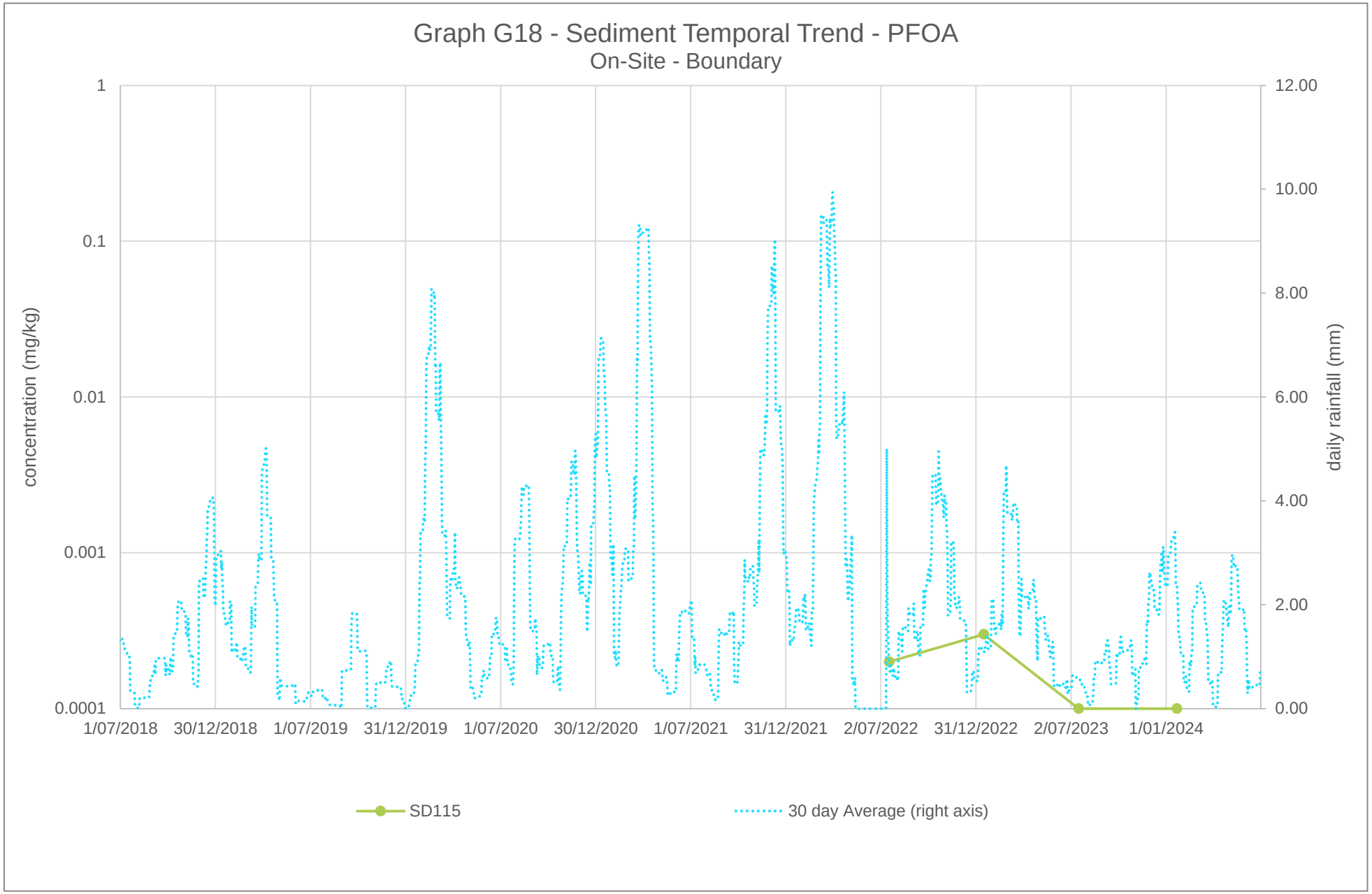

Graph G13 - Sediment Temporal Trend - Sum of PFOS + PFHxS
On-Site - Sub-Catchment A
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD002
SD003
SD032
SD053
SD065
SD114
30 day Average (right axis)

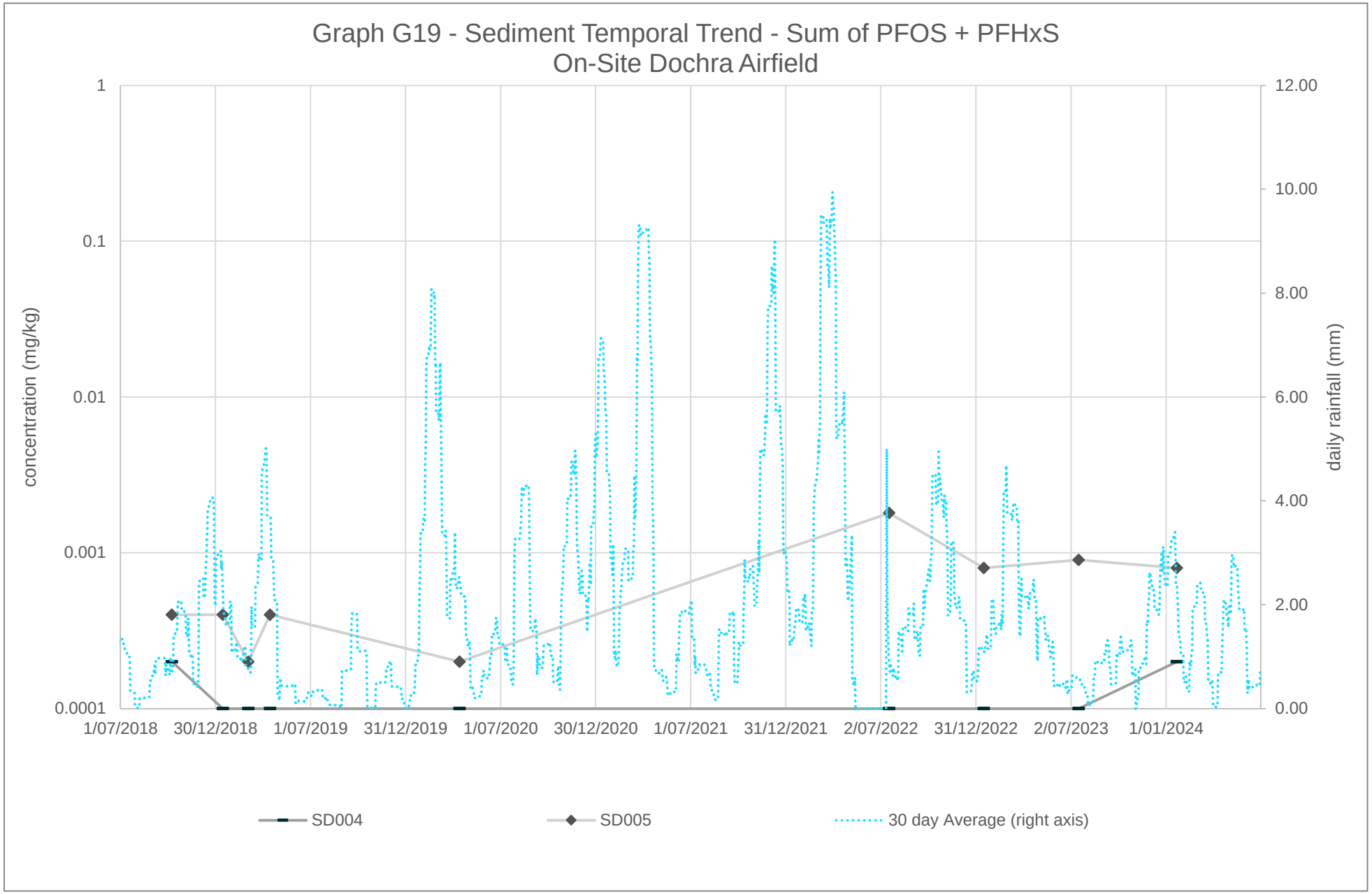

Graph G14 - Sediment Temporal Trend - PFOA
On-Site - Sub-Catchment A
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD002
30 day Average (right axis)

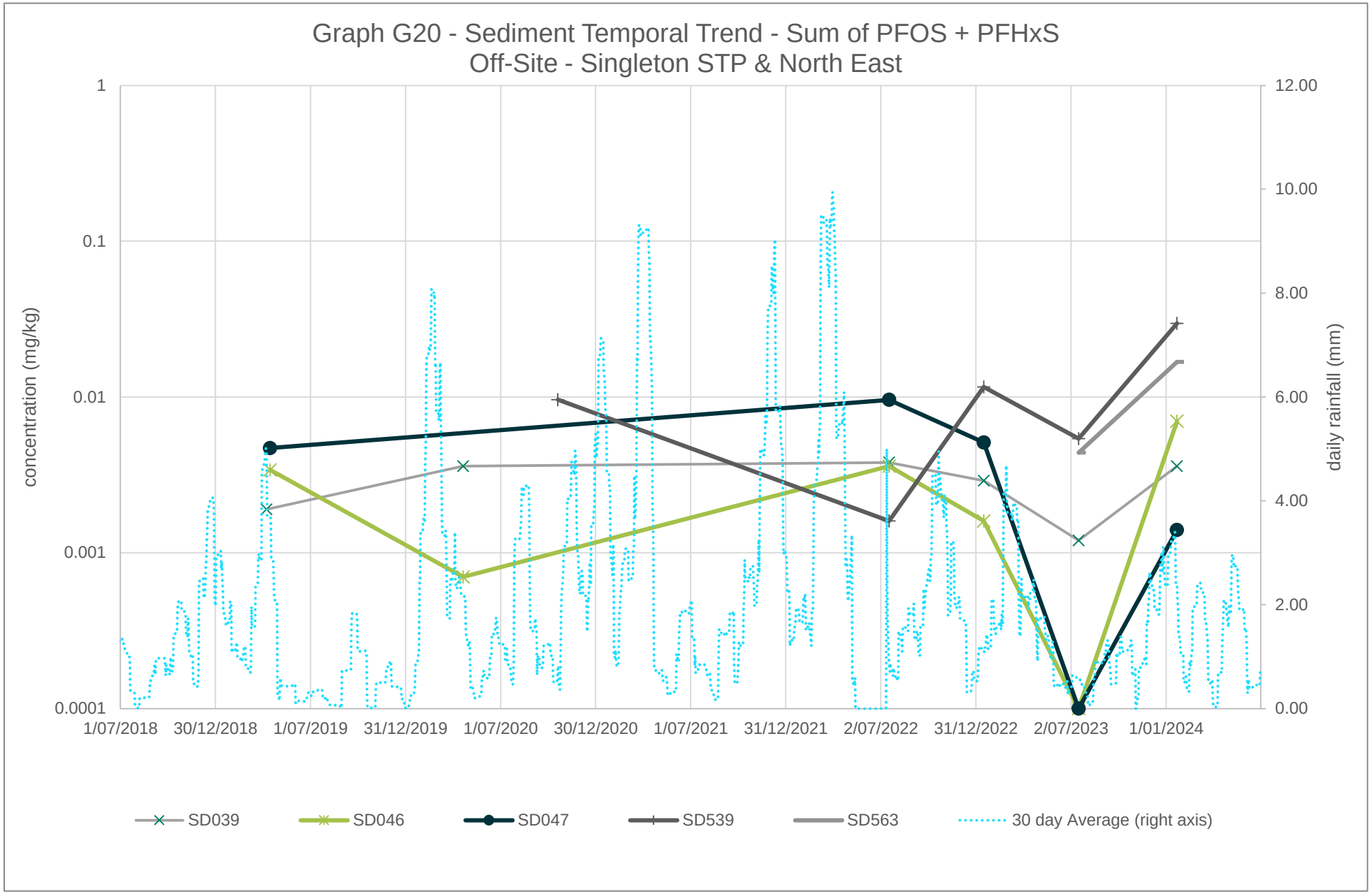

Graph G15 - Sediment Temporal Trend - Sum of PFOS + PFHxS
On-Site - Sub-Catchment B
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD055
SD555
30 day Average (right axis)

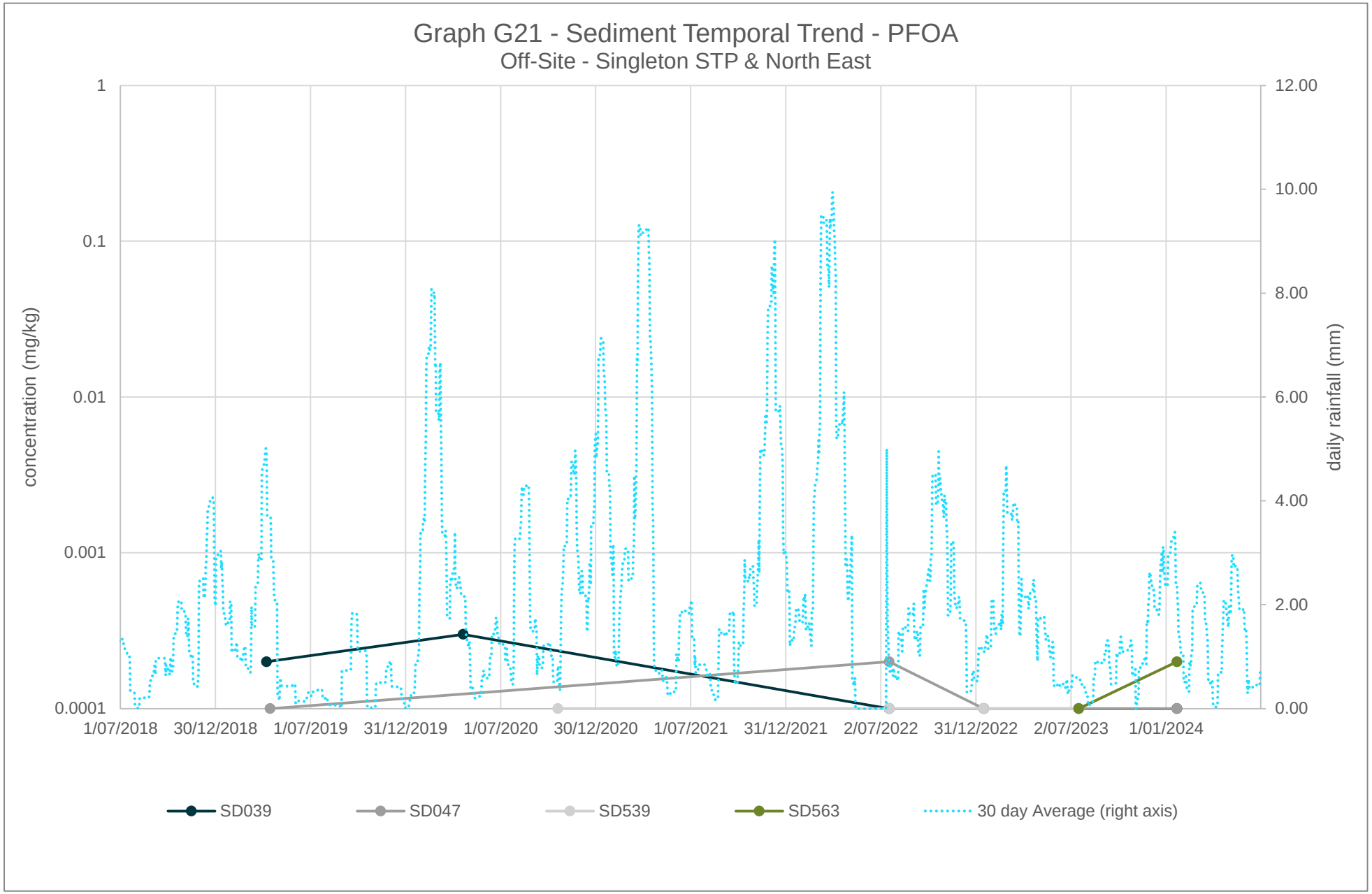

Graph G16 - Sediment Temporal Trend - Sum of PFOS + PFHxS
On-Site - Sub-Catchment C
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD040
30 day Average (right axis)

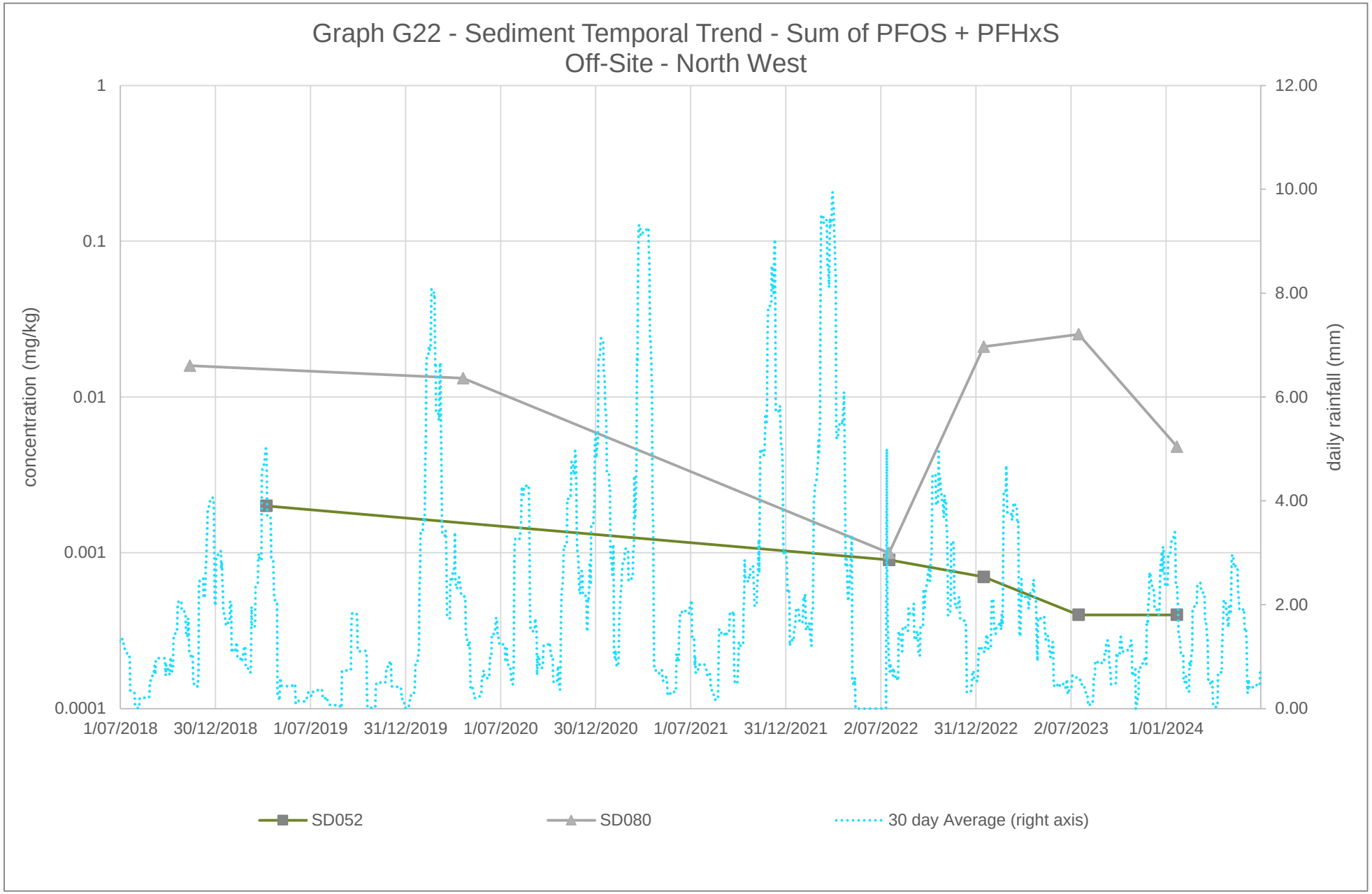

Graph G17 - Sediment Temporal Trend - Sum of PFOS + PFHxS
On-Site Boundary
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD115
SD116
30 day Average (right axis)


Graph G18 - Sediment Temporal Trend - PFOA
On-Site - Boundary
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD115
30 day Average (right axis)


Graph G19 - Sediment Temporal Trend - Sum of PFOS + PFHxS
On-Site Dochra Airfield
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD004
SD005
30 day Average (right axis)


Graph G20 - Sediment Temporal Trend - Sum of PFOS + PFHxS
Off-Site - Singleton STP & North East
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD039
SD046
SD047
SD539
SD563
30 day Average (right axis)


Graph G21 - Sediment Temporal Trend - PFOA
Off-Site - Singleton STP & North East
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD039
SD047
SD539
SD563
30 day Average (right axis)


Graph G22 - Sediment Temporal Trend - Sum of PFOS + PFHxS
Off-Site - North West
concentration (mg/kg)
daily rainfall (mm)
1
0.1
0.01
0.001
0.0001
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/07/2018
30/12/2018
1/07/2019
31/12/2019
1/07/2020
30/12/2020
1/07/2021
31/12/2021
2/07/2022
31/12/2022
2/07/2023
1/01/2024
SD052
SD080
30 day Average (right axis)

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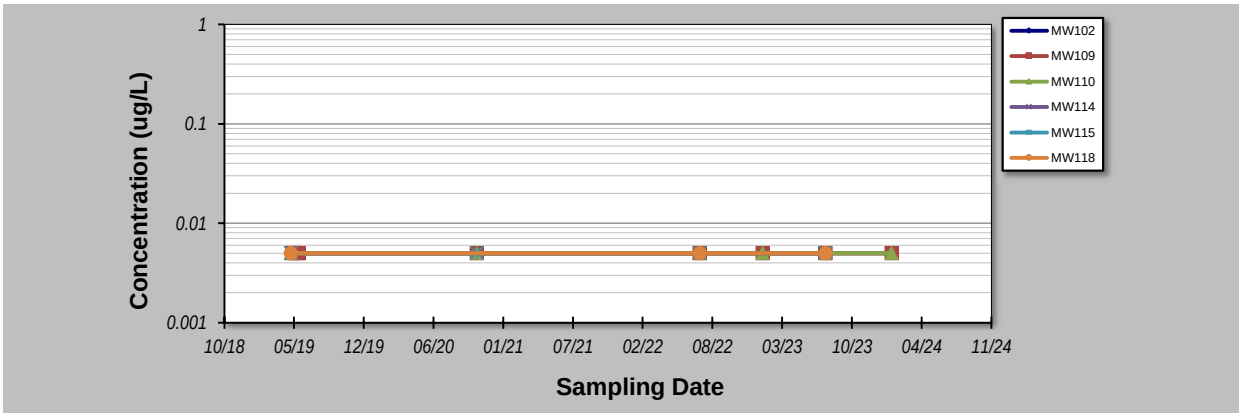
Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-24
Facility Name: On-Site - Northern Boundary
Conducted By: DDT/JR

Job ID: 60612562
Constituent: PFOA
Concentration Units: ug/L

Sampling Point ID:	MW102	MW109	MW110	MW114	MW115	MW118	
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	6-May-19	0.005			0.005	0.005	0.005	
2	7-May-19			0.005				
3	8-May-19	0.005						
4	10-May-19		0.005					
5	28-May-19		0.005					
6	20-Oct-20	0.005	0.005	0.005	0.005	0.005		
7	21-Jul-22	0.005	0.005	0.005	0.005	0.005	0.005	
8	18-Jan-23	0.005	0.005	0.005				
9	17-Jul-23	0.005	0.005	0.005	0.005	0.005	0.005	
10	23-Jan-24	0.005	0.005	0.005				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.00	0.00	0.00	0.00	0.00	0.00	
Mann-Kendall Statistic (S):		0	0	0	0	0	0	
Confidence Factor:		37.9%	37.9%	39.3%	37.5%	37.5%		
Concentration Trend:		n/a	n/a	n/a	n/a	n/a	n/a	



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.

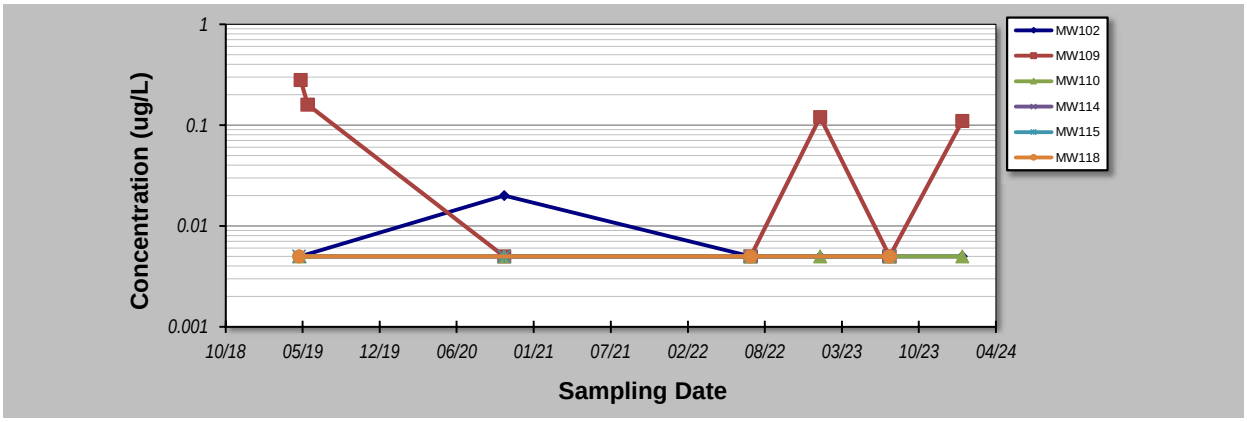
AECOM

Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-24	Job ID:	60612562
Facility Name:	On-Site - Northern Boundary	Constituent:	PFHxS+PFOS
Conducted By:	DDT/JR	Concentration Units:	ug/L

Sampling Point ID:	MW102	MW109	MW110	MW114	MW115	MW118	
Sampling Event	Sampling Date	PFHXS+PFOS CONCENTRATION (ug/L)						
1	6-May-19	0.005			0.005	0.005	0.005	
2	7-May-19			0.005				
3	8-May-19	0.005						
4	10-May-19		0.28					
5	28-May-19		0.16					
6	20-Oct-20	0.02	0.005	0.005	0.005	0.005		
7	21-Jul-22	0.005	0.005	0.005	0.005	0.005	0.005	
8	18-Jan-23	0.005	0.12	0.005				
9	17-Jul-23	0.005	0.005	0.005	0.005	0.005	0.005	
10	22-Jan-24	0.005	0.11	0.005				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.79	1.05	0.00	0.00	0.00	0.00	
Mann-Kendall Statistic (S):		-2	-8	0	0	0	0	
Confidence Factor:		55.7%	84.5%	39.3%	37.5%	37.5%		
Concentration Trend:		n/a	No Trend	n/a	n/a	n/a	n/a	



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.

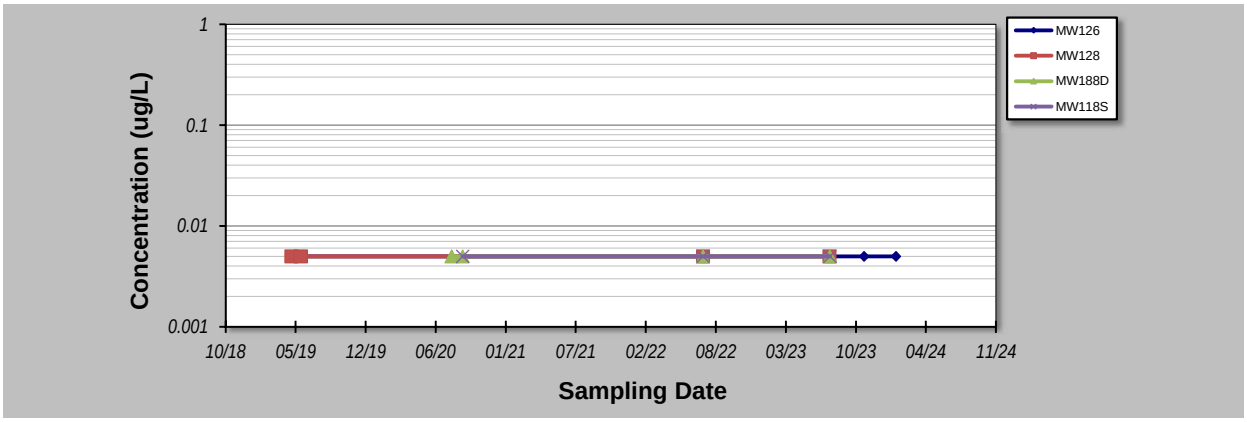
AECOM

Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-24	Job ID:	60612562
Facility Name:	Off-Site - Northern Boundary	Constituent:	PFOA
Conducted By:	DDT/JR	Concentration Units:	ug/L

Sampling Point ID:	MW126	MW128	MW188D	MW118S			
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	3-May-19	0.005	0.005					
2	30-May-19		0.005					
3	3-Aug-20			0.005				
4	3-Sep-20			0.005	0.005			
5	22-Jul-22	0.005	0.005	0.005	0.005			
6	18-Jul-23	0.005	0.005					
7	19-Jul-23			0.005	0.005			
8	25-Oct-23	0.005						
9	24-Jan-24	0.005						
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.00	0.00	0.00	0.00			
Mann-Kendall Statistic (S):		0	0	0	0			
Confidence Factor:		40.8%	37.5%	37.5%				
Concentration Trend:		n/a	n/a	n/a	n/a			



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.

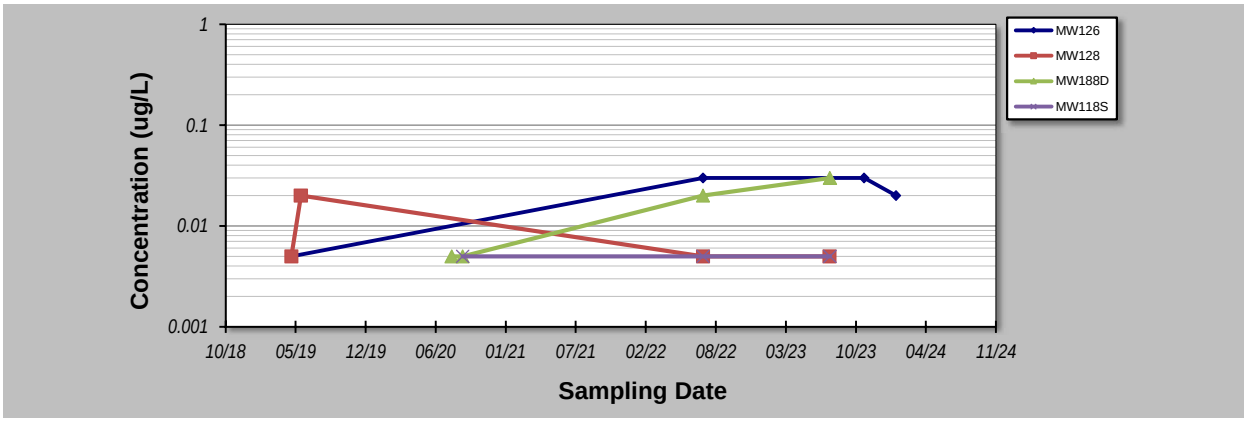
AECOM

Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-24	Job ID:	60612562
Facility Name:	Off-Site - Northern Boundary	Constituent:	PFHxS+PFOS
Conducted By:	DDT/JR	Concentration Units:	ug/L

Sampling Point ID:	MW126	MW128	MW188D	MW118S			
Sampling Event	Sampling Date	PFHXS+PFOS CONCENTRATION (ug/L)						
1	3-May-19	0.005	0.005					
2	30-May-19		0.02					
3	3-Aug-20			0.005				
4	3-Sep-20			0.005	0.005			
5	22-Jul-22	0.03	0.005	0.02	0.005			
6	18-Jul-23		0.005					
7	19-Jul-23			0.03	0.005			
8	25-Oct-23	0.03						
9	24-Jan-24	0.02						
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.56	0.86	0.82	0.00			
Mann-Kendall Statistic (S):		1	-1	5	0			
Confidence Factor:		50.0%	50.0%	89.6%				
Concentration Trend:		No Trend	n/a	No Trend	n/a			



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.

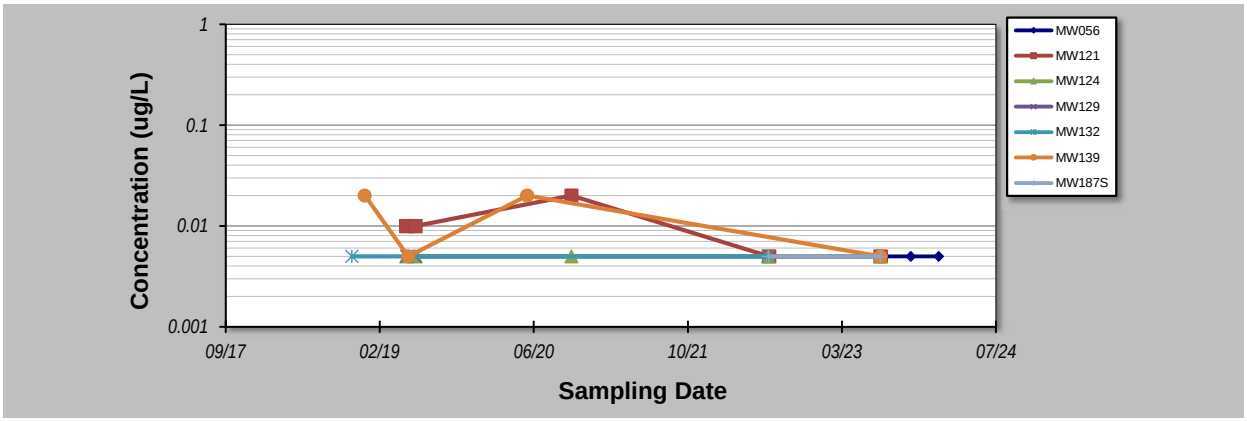
AECOM

Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-24	Job ID:	60612562
Facility Name:	Off-Site - North - Shallow	Constituent:	PFOA
Conducted By:	DDT/JR	Concentration Units:	ug/L

Sampling Point ID:	MW056	MW121	MW124	MW129	MW132	MW139	MW187S
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	6-Nov-18					0.005		
2	18-Dec-18						0.02	
3	2-May-19		0.01	0.005				
4	3-May-19				0.005			
5	7-May-19					0.005		
6	8-May-19	0.005					0.005	
7	30-May-19	0.005			0.005			
8	31-May-19		0.01	0.005				
9	28-May-20						0.02	
10	19-Oct-20		0.02	0.005				
11	19-Jul-22					0.005		
12	20-Jul-22			0.005				0.005
13	22-Jul-22		0.005					
14	18-Jul-23						0.005	
15	19-Jul-23	0.005	0.005	0.005				0.005
16	25-Oct-23	0.005						
17	24-Jan-24	0.005						
18								
19								
20								
Coefficient of Variation:		0.00	0.61	0.00	0.00	0.00	0.69	0.00
Mann-Kendall Statistic (S):		0	-4	0	0	0	-2	0
Confidence Factor:		40.8%	75.8%	40.8%			62.5%	
Concentration Trend:		n/a	Stable	n/a	n/a	n/a	Stable	n/a



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.

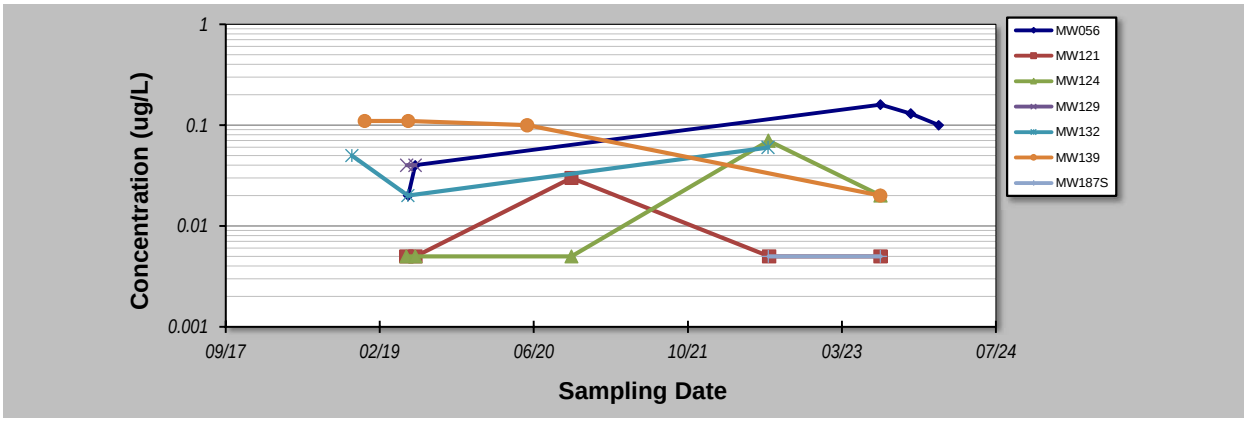
Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-24
Facility Name: Off-Site - North - Shallow
Conducted By: DDT/JR

Job ID: 60612562
Constituent: PFHxS+PFOS
Concentration Units: ug/L

Sampling Point ID:	MW056	MW121	MW124	MW129	MW132	MW139	MW187S
Sampling Event	Sampling Date	PFHXS+PFOS CONCENTRATION (ug/L)						
1	6-Nov-18					0.05		
2	18-Dec-18						0.11	
3	2-May-19		0.005	0.005				
4	3-May-19				0.04			
5	7-May-19					0.02		
6	8-May-19	0.02					0.11	
7	30-May-19	0.04			0.04			
8	31-May-19		0.005	0.005				
9	28-May-20						0.1	
10	19-Oct-20		0.03	0.005				
11	19-Jul-22					0.06		
12	20-Jul-22			0.07				0.005
13	22-Jul-22		0.005					
14	18-Jul-23						0.02	
15	19-Jul-23	0.16	0.005	0.02				0.005
16	25-Oct-23	0.13						
17	24-Jan-24	0.10						
18								
19								
20								
Coefficient of Variation:		0.66	1.12	1.34	0.00	0.48	0.51	0.00
Mann-Kendall Statistic (S):		4	0	5	0	1	-5	0
Confidence Factor:		75.8%	40.8%	82.1%			89.6%	
Concentration Trend:		No Trend	n/a	n/a	n/a	n/a	Stable	n/a



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.

AECOM

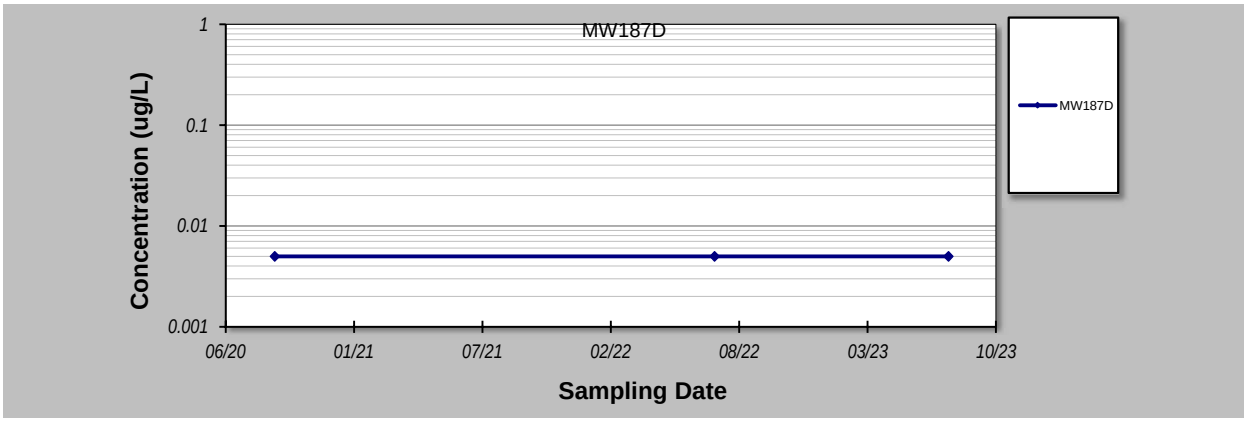
Appendix C - Mann Kendall Assessment

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Feb-25	Job ID:	60612562
Facility Name:	Off-Site - North - Deep	Constituent:	PFOA
Conducted By:	JR	Concentration Units:	ug/L

Sampling Point ID: MW187D

Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)
1	3-Sep-20	0.005
2	20-Jul-22	0.005
3	19-Jul-23	0.005
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		
Concentration Trend:		n/a



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.

AECOM

Appendix C - Mann Kendall Assessment

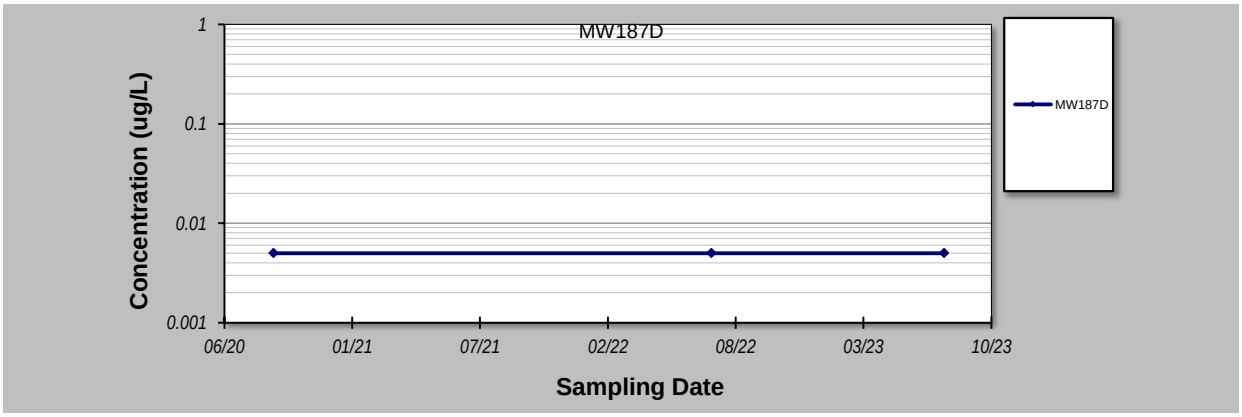
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 19-Feb-25
Facility Name: Off-Site - North - Deep
Conducted By: JR

Job ID: 60612562
Constituent: PFHxS+PFOS
Concentration Units: ug/L

Sampling Point ID: MW187D

Sampling Event	Sampling Date	PFHXS+PFOS CONCENTRATION (ug/L)
1	3-Sep-20	0.005
2	20-Jul-22	0.005
3	19-Jul-23	0.005
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		
Concentration Trend:		n/a



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.

Appendix D

SAQP

Prepared for
Department of Defence
ABN: 68 706 814 312

AECOM

Sampling and Analysis Quality Plan

PFAS OMP - Singleton Military Area (Site ID 0356)

23-Jan-2024
Doc No. 20240123_OMP002_SMA_SAQP_Rev 6

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Delivering a better world

Sampling and Analysis Quality Plan

PFAS OMP - Singleton Military Area (Site ID 0356)

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

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Table of Contents

List of Tables

1.0 Introduction

1.1 Preamble

AECOM Australia Pty Ltd (AECOM) has prepared this Sampling and Analysis Quality Plan (SAQP) for the implementation of the per- and poly-fluoroalkyl substance (PFAS) Ongoing Monitoring Plan (OMP) at the Singleton Military Area (SMA) (the 'Site') (Site ID 0356) and the surrounding areas (refer to **Figure F1** in **Appendix A**).

This SAQP supports the OMP (Defence, 2021a) developed as part of the PFAS Management Area Plan (PMAP) (Defence, 2021b) for the Management Area.

The purpose of the Ongoing Monitoring Program is to collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, transport (migration pathways and rates) and transformation of PFAS at the Site and in the Management Area.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP (Defence, 2021b) throughout the initial three-year implementation period.

1.2 SAQP Objectives

The objectives of this SAQP are to outline the proposed:

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

1.3 Scope of Works

To meet the objectives, the following scope of works are proposed as per the OMP (Defence, 2021a):

- monitor the changes in the nature and extent (spatial and temporal) of PFAS impact in groundwater, surface water (including wastewater) and sediment pathways associated with Site sources of PFAS derived from the historical use of aqueous film forming foam (AFFF)
- monitor the changes in PFAS in groundwater and surface water from the Site, utilising newly obtained and historical data. These include:
  - key surface water drainage lines from the SMA, including Doughboy Hollow Creek, Emigrant Creek and Mudies Creek
  - groundwater in and near PFAS source areas on and along and near the northern boundary of the Cantonment to act as a sentinel system for PFAS migration across the Base boundary.
- collect data to further refine the understanding of the contribution of PFAS from the SMA to offsite surface water, including the Singleton Sewage Treatment Plant (STP), and groundwater
- monitor changes to the current understanding of risk
- provide supporting data for assessment of management actions outlined in the PMAP, where relevant.

1.4 Guidelines and Legislation

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

- Australian and New Zealand Guidelines, 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

- Department of Defence, 2018. *Contamination Management Manual – Annex L Data Management*. August 2018, Amended June 2021.
- Department of Defence, 2022. *PFAS Investigation and Management, Guidance Document E Standard PFAS Analytical Suite*. June 2022.
- Department of Health, 2017. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.
- FSANZ, 2017. *Supporting Document 1: Hazard assessment report – Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorohexane Sulfonate (PFHxS).*
- Heads of EPAs Australia and New Zealand (HEPA) 2020. *PFAS National Environmental Management Plan 2.0*. January 2020.
- National Environment Protection Council (NEPC), 2013. *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013).*
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water.* August 2019.
- Standards Australia, 1998. AS/NZ 5667:1998 Water Quality – Sampling. Part 11: Guidance on sampling of groundwaters.

1.5 Previous investigations

Previous investigations of PFAS at the Site and surrounding areas have included a Detailed Site Investigation (DSI) and a DSI Addendum (AECOM, 2019 and 2021a) as well as a Human Health and Ecological Risk Assessment (HHERA) (AECOM, 2021b). These reports detailed the nature and extent of PFAS, as well as the associated risks pertaining to PFAS contamination from legacy use of AFFF.

The PMAP (Defence, 2021b) was subsequently developed and includes the overall purpose and requirements of the OMP.

Additionally, to date, three Sampling Event Factual Reports (AECOM, 2022, 2023a and 2023b) have been prepared under the OMP.

2.0 Site Setting

2.1 Site Description

The Site is located approximately 8 km south of the township of Singleton, in the vicinity of Newcastle, NSW. The Site comprises the Cantonment and the Singleton Training Area (STA).

The Site houses the School of Infantry, Joint Logistics Unit East (Hunter Valley), the Australian Army Infantry Museum, as well as Estate & Infrastructure Group SMA. Support activities undertaken primarily at the Site include vehicle maintenance, storage and distribution of fuels and equipment wash-down.

A fire station was operational at the Site between 1963 and 1994, and associated activities included historical firefighting training with AFFF and equipment maintenance and testing.

The STA is an approximately 15,000 hectare firing range located between the Cantonment (to the north), Brokenback Range (south), the Hunter Vineyards (east), and the Mount Thorley Mine area (west). The STA is comprised of a number of former and active ranges for weapons firing, vehicle training and explosives testing.

The Site, together with the Singleton STP located off-Site and the neighbouring properties to the north, northwest and northeast, form the 'Management Area'.

The PMAP (Defence, 2021b) describes the 'Management Area' as comprising of two distinct areas:

- the on-Site Management Area, which includes the SMA
- the off-Site Management Area, which includes the private properties to the northwest, north and northeast of the SMA (**Figure F1** in **Appendix A**).

The Site and surrounding areas are presented in **Figure F1** in **Appendix A**.

2.1.1 Regional Meteorology

The Bureau of Meteorology (BoM) at Singleton Military Defence Area (station number: 061430) has recorded the climate statistics on Site since 2017, presenting a record of approximately 7 years. The following is a summary of temperature and rainfall data from this station:

- Mean monthly maximum temperatures have varied from 16.7°C in July to 28.6°C in January.
- Mean rainfall at the Site is 713.6 mm per annum. The lowest recorded annual rainfall was 344.4 mm in 2019 and the highest annual rainfall was 1026.6 mm in 2021. Mean monthly rainfall is highest between October and March, averaging 87.92 mm per month, and lowest from May to July averaging 25.74 mm per month.

2.1.2 Topography and Geology

The Site and surrounding areas are located within the northern part of the Sydney Basin which is characterised by Permian and Triassic aged sedimentary rock. The lithology underlying the Site is composed of sandstone with some conglomerate, claystone, and shale. Some less prominent rocks present in the area include quartzose sandstone of the Hawkesbury Sandstone, siltstone, and tuff.

The soils within the low-lying areas of the Site consist primarily of alluvial soils, yellow and red podzolic soils. Towards the southern extent of the Site where elevation is higher, the soil profiles are thinner and are classified as shallow soils.

The Site is approximately 40 kilometres east of the Great Dividing Range and is dominated by moderate to gently sloping inclines and hills, with the foothills of the Brokenback Ranges erecting towards the southern extent of the Site.

Majority of the Off-Site Management Areas are located in the Central Lowlands along the Hunter River. This area is characterised by rolling hills and inclines on weak sedimentary rocks.

2.1.3 Hydrogeology

The hydrogeology of the Site can be summarised into four notable subunits.

- The **perched groundwater unit** is an unconfined discontinuous perched zone with the material flanking creeks. Water is present within the alluvium/colluvium flanking major water courses across the Site. Recharge is mainly from rainfall and the zone periodically dries out following extended periods of low rainfall.
- The **alluvial groundwater unit** presents groundwater in the low-lying part of the Site, within the alluvial sediments of the Hunter River floodplain. It is an unconfined aquifer and recharges predominantly from surface water. High yields of good quality water can be pumped from the aquifer making it a resource for beneficial uses including irrigation, agriculture and farming.
- In the weathered zone of the Permian bedrock lies the **shallow groundwater unit** where its presence is reliant on rainfall. The groundwater is perched above zones of low hydraulic conductivity such as clay or shale lenses within the bedrock. Leaching of salts from the bedrock creates poor quality groundwater in this zone.
- The **deep groundwater unit** is the dominant aquifer across the Site, and it forms the regional aquifer. Rock porosity highly dictates the flow of groundwater through this aquifer, followed by fractures and voids in the rock.

The previous investigations and monitoring have indicated groundwater (regional groundwater in shale bedrock and shallow in unconsolidated material above the shale bedrock) flows generally to the north and north east towards the Hunter River.

2.1.4 Vegetation

The vegetation on Site that has been identified as being critically endangered and in areas where exposure to PFAS is potential are as follows:

- Euphrasia arguta (annual herb)
- Prasophyllum sp. Wybong (terrestrial orchid).

2.1.5 Surface Water Drainage

The Site comprises several creek lines that ultimately drain north and east towards the Hunter River (located approximately 2 kilometres north of the Site boundary). The primary on-Site drainage lines include Mudies Creek and Emigrant Creek along the western and eastern boundaries of the Dochra Airfield, as well as a number of creeks emanating from the southern area of the Site. Doughboy Hollow Creek traverses the Site and runs to the north.

The off-Site Management Area comprises a number of water bodies including private dams and smaller drainage lines located on residential properties.

The previous investigations and monitoring observations indicated that the major surface water bodies were ephemeral, and flow in response to rainfall, with no base flow component connected to the groundwater. Additionally, there is potential for surface water to recharge groundwater in the area.

2.1.6 Current Surrounding Land Use

The current land uses of the surrounding off-Site areas are as follows:

- Grazing land and the floodplain areas of Whittingham and Glenridding, as well as a sewage treatment plant owned by Singleton Council are located to the north. The Whittingham Fire Station and Airstrip are located 1 kilometre and 1.3 kilometres northeast, respectively.
- The Pokolbin State Forest and the Brokenback Range are located to the south of the Site. Hunter Valley vineyards are located further southeast of the Site.
- A mix of rural and semirural land holdings including sparsely wooded open land and pastureland is located to the east. The Hunter River lies to the northeast, irrigating the croplands on the floodplains.
- Grazing land and irrigated cropland within the floodplains of the Hunter are located immediately west of the Site.

2.2 Conceptual Site Model

The Conceptual Site Model (CSM) is presented in the PMAP (Defence, 2021b) which summarises the linkages between PFAS sources, exposure pathways and receptors across the Management Area (**Figure F1** in **Appendix A**).

The PMAP (Defence, 2021b) was based on the DSI (AECOM, 2019), and then further refined in the DSI Addendum (AECOM, 2021a) and the HHERA (AECOM, 2021b).

The CSM identified PFAS source areas (where AFFF containing PFAS is understood to have been used in the past) and secondary PFAS source areas (where PFAS has migrated to a location where it creates a concentration of impact).

A number of potential PFAS exposures and risks to human and ecological health have been identified and include but are not limited to:

- Drinking groundwater with PFAS concentrations on and off-Site, that exceed the human health guideline values for drinking water.
- Incidental ingestion and dermal contact with rainwater containing elevated PFAS concentrations that was collected in tanks and used to irrigate gardens.
- Consumption of home-grown livestock produce (red meat, milk, eggs) at properties near the Site where sheep, cattle or home-grown backyard poultry have consumed water containing detectable PFAS or have grazed/roamed in areas irrigated or flooded with water containing detectable PFAS.
- Toxicity to terrestrial and aquatic organisms from direct exposure to PFAS in soil, sediment or surface water.
- PFAS uptake in plants and bioaccumulation and becomes part of food chain.

3.0 Data Quality Objectives

3.1 DQO Process

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 seven steps summarised in **Table 1** below:

Table 1 The seven steps in defining DQOs

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

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

3.1.1 Step 1 – State the Problem

PFAS source areas at the Site are contributing to the presence of PFAS in surface water and to a limited extent in off-Site groundwater (AECOM, 2019, 2021a and 2021b).

Defence and State regulatory agencies require up-to-date data to assess the ongoing nature and extent of PFAS in the management area, assess the performance of implemented management actions and enable informed risk management decisions to protect human health and the environment.

The data collected by implementing this OMP will provide a periodic / longitudinal dataset that can be used to assist with assessment of temporal changes in PFAS concentrations in groundwater and surface water / sediment on- and off-Site as well how groundwater and surface water levels respond to natural fluctuations.

The OMP will continue for a nominal period of 3 years and cover the primary implementation period of the PMAP in which PMAP remediation actions (or other short-medium term actions) are likely to be completed. The need for ongoing monitoring following this period will be assessed with advice from NSW Government.

3.1.2 Step 2 – Identify the Goal of the Study

The goal of the study is to establish a systematic routine groundwater and surface water / sediment sampling and analysis program to:

- refine current understanding of the distribution of PFAS in groundwater and surface water/sediment in the Management Area
- monitor changes to PFAS distribution and variability due to management actions and seasonal variations
- collect additional data to inform future management actions.

This will allow decisions to be made regarding the assessment of risks to human and ecological receptors into the future (for example, updating the conceptual site model), and whether the OMP needs to be amended to reflect these updates.

3.1.3 Step 3 – Identify Information Inputs

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

- PFAS results[1] from previous environmental investigations including the DSI (AECOM, 2019), DSI Addendum (AECOM, 2021a) and HHERA (AECOM, 2021b), and the residential sampling program
- groundwater and surface water flow regimes identified in the DSI (AECOM, 2019) and DSI Addendum (AECOM, 2021a)
- meteorological data including rainfall
- groundwater, surface water and sediment data collected and analysed for PFAS, as part of this OMP
- advances in laboratory analytical approaches and changes in regulatory requirements.

3.1.4 Step 4 – Define the Boundaries of the Study

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

- the spatial boundary for data collection and decision making is limited to the on-Site and off-Site Management Area, however, is subject to change with input from the NSW Government.
- the sampling completed as part of the OMP will be limited to groundwater, surface water and sediment, at the frequencies defined in **Sections 4.2** and **4.3**.

The monitoring will be long term (initial period of 3 years) and potentially ongoing, based on review of the data and refinement of the OMP, as appropriate.

3.1.5 Step 5 – Develop the Analytical Approach

The decision rules can be defined as:

Analytical:

- analytical selection; all samples will be analysed for the extended PFAS suite
- analytical method selection for PFAS is based on achieving appropriate laboratory Limit of Reporting (LOR) in the various media to be analysed
- if the sample / laboratory quality assurance / quality control data are within the acceptable ranges, the data will be considered suitable for use.

Project:

- 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 the Management Area in

[1] Where permission to use the residential sampling data has been obtained from the relevant landowners

surface water and groundwater, and to assist with refinement of Management Area boundary over time, as required

- 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 (refer to Table 4-3 of the OMP [Defence, 2021a])
- if the PFAS is reported at a concentration that is above drinking water guideline in groundwater, then it will be considered that further assessment is required and / or notification (refer to Table 4-3 of the OMP [Defence, 2021a])
- if the PFAS is reported at a concentration that is inside a trigger value or acceptable range, then it will be considered whether monitoring is continued or reduced, this assessment will be undertaken after two years of monitoring (refer to Table 4-3 of the OMP [Defence, 2021a]).

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, the OMP outlines minimum numbers of samples proposed to be collected from each media
- as such, there may be limitations in the data if aspects of the OMP cannot be implemented. Some examples of this scenario include but are not limited to:
  - Proposed surface water or groundwater sample locations may be dry at the time of sampling
  - Proposed groundwater well locations are damaged or destroyed and therefore cannot be sampled
  - Proposed samples are not collected due to access being restricted to a given location.
- limitations in ability to acquire useful and representative information from the data collected. The data are proposed to be collected from multiple locations and sample media. Some examples of this scenario include:
  - Some of the data are proposed to be collected from landholder bores, which are not purpose-built for groundwater monitoring. In some cases, there is limited information on the bore construction, and the likely presence of dedicated pumps or windmills may prevent groundwater depths being accurately recorded while also preventing groundwater being sampled using low flow techniques.
- measurement errors can occur during sample collection, handling, preparation, analysis and data reduction. To address this the following measures are proposed:
  - Collection of sufficient sample mass to facilitate analysis reported to standard laboratory detections limits. Collection of insufficient sample mass may result in raised detection limits
  - Field staff to follow a standard procedure when collecting samples, including decontamination of tools, and use of appropriate sample containers and preservation methods
  - Laboratories to follow a standard procedure when preparing samples for analysis and undertaking analysis.

- laboratories to report quality assurance/ quality control data for comparison with the DQIs established for the OMP.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

The methodology presented in this OMP is designed to meet the objectives described in **Section 1.2** and to achieve the nominated DQOs.

Optimisation of the data collection process will be achieved by:

- working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate
- conducting sampling in accordance with the NEMP (HEPA 2020), with specific reference to Section 18.5 - *Considerations for Specific Environmental Media*
- basing the sampling upon a CSM developed using the information available at the implementation of the OMP. Updating the CSM as new data becomes available during the course of the implementation of the OMP, as required
- progressive review of the data and modification of sampling programs to optimise the value of data generated.

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

The OMP (Defence, 2021a) provides guidance for preparing a SAQP that is required for each monitoring event, including scope of work, sampling methodologies, monitoring locations and PFAS assessment levels. The SAQP was developed in response to the principal study questions outlined in Step 2 and in line with the DQOs.

To maintain the integrity and reliability of data the following measures are to be adopted:

- field and analytical data are collected in accordance with the PFAS NEMP (HEPA, 2020) and the ASC NEPM (NEPC, 2013)
- field personnel should be trained and have sufficient experience to complete the fieldwork to an acceptable standard, as per the protocols outlined in the OMP / SAQP and following standards:
  - Department of Defence *Contamination Management Manual* (March 2018, Amended June, 2021)
  - Standards Australia (AS/NZS5667.11–1998) *Water Quality – Sampling, part 11: Guidance on sampling of groundwater*
- robust field and laboratory quality assurance/quality control protocols are adopted, including implementing suitable fieldwork procedures, and ensuring that sample handling, and transport to and processing by the analytical laboratories is appropriate
- use laboratories that are NATA accredited for PFAS analysis and ensure laboratory LORs are suitable to meet the relevant adopted assessment levels, where possible
- conducting sampling in accordance with AECOM's internal PFAS Sample Collection Guidance
- sampling conducted by suitably qualified and experienced field staff who have completed AECOM's internal PFAS 101 Training
- continually seeking to identify opportunities for refinement and optimisation of the OMP, including, but not limited to, identifying redundant locations that can be excluded from the monitoring program. This will be achieved through a review of the SAQP prior to each OMP sampling event across the three-year primary implementation period.

3.2 Assessment of Data Quality

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

- documentation and data completeness
- data quality – comparability, representativeness, precision and accuracy of the analytical data.

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

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

Table 2 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
Water and Sediment Samples	
Field Program	Sampling to be completed by suitably qualified and experienced field teams employing appropriate sampling procedures.
Rinsate Blanks	Rinsate blank samples are to be collected at a rate of one per day of sampling (where sampling equipment is reused) with concentrations of PFAS to be less than the laboratory LOR.
Field duplicates/Inter-lab duplicates	Field duplicates and inter-laboratory duplicates are to be collected and analysed at a rate of 10% (1 per 10 primary samples). The relative percentage difference (RPD) will be assessed as acceptable if less than or equal to 30% as per the NEPM Schedule B3. Where the results show greater than 30% difference a review of the cause will be conducted (NEPM, 2013). It is noted that RPDs that exceed this range may be considered acceptable where: • results are less than 10 times the LOR (no limit) • results are between 10 and 20 times the LOR and the RPD is less than 50% • heterogeneous materials are encountered.
Laboratory duplicates	The RPD will be assessed as acceptable based on the magnitude of the result: • 0-20% for results more than 20 times the LOR • 0-50% for results between 10 and 20 times the LOR • No limit for results between 0 and 10 times the LOR
Matrix spikes	Recoveries between 70-130% of the theoretical recovery or as nominated in the laboratory's Quality Control report.
Method blanks	Less than the laboratory LOR.
Laboratory control samples	Recoveries between the laboratory-specified range for each particular analyte/analytical suite.

4.0 Sampling Location Rationale & Sampling Methodology

4.1 OMP

The OMP (Defence, 2021a) presents an overview of specific monitoring works to be undertaken and provides the basis for the preparation of this SAQP. This scope of works presented in this SAQP is consistent with that detailed in the OMP (Defence, 2021a).

4.2 Proposed Schedule

The OMP (Defence, 2021a) outlines the monitoring for groundwater, surface water and sediment sampling from across the Site and Management Area to be undertaken on a biannual (six-monthly) basis for an initial period of 3 years with selected locations sampled either biannually, annually (once per year) or biennially (every second year). The monitoring also included sampling of the wastewater from the off-Site STP. The following summarises the schedule of monitoring for groundwater, surface water and sediment, together with the wastewater sample from the STP:

- **Groundwater** monitoring will include sampling over a period of three years comprising:
  - biannual monitoring of four well locations (MW102, MW104, MW109, MW110) at the northern Cantonment boundary for the first year. If results are comparable to those reported at these locations in the DSI (AECOM, 2019) and DSI Addendum (AECOM, 2021a), the monitoring frequency may revert to an annual frequency.
  - annual monitoring of wells at:
    - three on-Site locations (MW114, MW115 and MW118) at the northern Cantonment boundary; and
    - 12 off-Site locations (MW056, MW121, MW124, MW126, MW128, MW129, MW132, MW139, MW187D, MW187S, MW188D, MW188S) near the northern Cantonment boundary.
  - biennial monitoring of 11 well locations (MW048, MW049, MW050, MW052, MW008, MW011, MW167, MW059, MW063, MW071, MW073) at PFAS source areas including; the Defence National Storage and Distribution Centre (DNSDC) Compound, Former Fire Station, Helicopter Landing Ground and Dochra Airfield.
- **Surface water** monitoring will include biannual monitoring events at the 21 selected locations, scheduled to capture the wetter portion of the year (spring-summer) and drier portion of the year (autumn-winter).
- **Sediment** monitoring will include biannual monitoring events at the 20 selected locations.
- **Wastewater** effluent location at the off-Site STP will be sampled on a biannual basis to monitor changes in PFAS concentrations originally found in effluent discharges from the STP.

As required by the OMP (Defence, 2021a), at the completion of the initial three-year implementation period (which will include six rounds of monitoring, as part of the annual, biannual and biennial monitoring), the available data will be reviewed and evaluated (including comparability to the DSI results) to determine if the frequency of monitoring should increase or decrease to provide a better understanding of PFAS concentration fluctuations and subsequent changes to risk profile.

The proposed schedule of fieldwork across the initial three-year period is presented in **Table 3** below.

The locations to be monitored during the initial three-year implementation period (2022 – 2024) are listed in **Section 4.3**, together with the relevant OMP event under which they are planned to be sampled.

Table 3 Proposed Fieldwork Schedule over initial implementation period

Sampling Round No.	Year	Description of works	Proposed Schedule
1	1	Biennial (including biannual and annual) sampling of groundwater, surface water, wastewater and sediment	July 2022
2	1	Biannual sampling of groundwater, surface water, wastewater and sediment	January 2023
3	2	Annual (including biannual) sampling of groundwater, surface water, wastewater and sediment	July 2023
4	2	Biannual sampling of groundwater, surface water, wastewater and sediment	January 2024
5	3	Biennial (including biannual and annual) sampling of groundwater, surface water, wastewater and sediment	July 2024
6	3	Biannual sampling of groundwater, surface water, wastewater and sediment	January 2025

4.3 Sampling Locations

4.3.1 Groundwater Sampling Locations

The groundwater locations to be monitored during the initial three-year implementation period are provided in **Table 4** below and are presented on **Figure F2** in **Appendix A**.

Table 4 Groundwater Sample Locations

On/Off-Site	Area	Location ID	Historical Name	Easting	Northing	Top of Casing Elevation (m AHD)	Screen Interval (mbgl)	Sampling Frequency (Events)	Total # of sampling locations
On-Site	Northern Cantonment Boundary	MW102	GW02D	328357.02	6391396.84	46.82	12.5 – 15.5	Biannual, annual, biennial	7
		MW104	GW02S	328357.84	6391395.38	46.72	10 – 13	Biannual, annual, biennial	
		MW109	GW03D	328780.99	6391520.8	45.1	24.5 – 30	Biannual, annual, biennial	
		MW110	GW03S	328783.65	6391520.88	45.4	11.5 – 14	Biannual, annual, biennial	
		MW114	GW04D	329111.47	6391472.18	45.9	23.5 – 29.5	Annual, biennial	
		MW115	GW04S	329113.35	6391472.09	45.86	11 – 14	Annual, biennial	
		MW118	GW05S	329361.85	6391140.79	52.72	unknown	Annual, biennial	
	DNSDC Compound	MW048	CNN0039_GW01/CNN0039_GW001	328689.336	6390760.26	69.11	4 – 7	Biennial	4
		MW049	CNN0039_GW02/CNN0039_GW002	328714.567	6390735.258	69.76	2.7 – 8.7	Biennial	
		MW050	CNN0039_GW03	328696.53	6390962.71	64.4	12.5 – 16	Biennial	
		MW052	CNN0039_GW05	328737.46	6390684.35	72.05	0.8 – 3.8	Biennial	
	Former Fire Station	MW008	CNN0018_GW08	328347.54	6390164.94	74.1	11 – 14	Biennial	3
		MW011	CNN0018_GW02/CNN0018_GW002	328364.794	6390053.977	74.13	8.5 – 11.5	Biennial	
		MW167	CNN0230_GW01	328371.408	6390221.55	72.65	14.5 – 20.5	Biennial	
	Helicopter Landing Ground	MW059	HLG_GW03	327894.5	6389726.64	61.14	2 – 4	Biennial	1

On/Off-Site	Area	Location ID	Historical Name	Easting	Northing	Top of Casing Elevation (m AHD)	Screen Interval (mbgl)	Sampling Frequency (Events)	Total # of sampling locations
On-Site	Dochra Airfield	MW063	NSW1164_MW001D/ NSW1164_MW01D	332153.951	6386921.677	42.88	16 – 19	Biennial	3
		MW071	NSW1164_MW03D/NSW1164_MW003D	331897.4	6386665.65	47.87	23.5 – 29.5	Biennial	
		MW073	NSW1164_MW03S	331897.22	6386665.82	47.91	7 – 10	Biennial	
Off-Site	North of Site	**MW121**	GW06/GW06S	-	-	39.82	9.5 – 12.5	Annual, biennial	7
		MW126	GW08S	-	-	42.78	10.5 – 13.5	Annual, biennial	
		MW132	RESI_GW011	-	-	unknown	unknown	Annual, biennial	
		MW187D	MW09D	-	-	40.23	18.7 – 24.7	Annual, biennial	
		MW187S	MW09S	-	-	40.4	7 – 10	Annual, biennial	
		MW188D	MW10D	-	-	41.25	24 – 30	Annual, biennial	
		MW188S	MW10S	-	-	41.12	8 – 11	Annual, biennial	
	North-east of Site	**MW056**	GW12, MW12S	-	-	34.71	5.3 – 8.3	Annual, biennial	4
		MW124	GW07/GW07S	-	-	38.68	9.4 – 13.8	Annual, biennial	
		MW129	GW10S	-	-	37.95	9 – 12	Annual, biennial	
		MW139	RESI_GW013/RESI_GW13	-	-	unknown	unknown	Annual, biennial	
	North-west of Site	**MW128**	GW09S	-	-	44.08	9.2 – 12.2	Annual, biennial	1

Note: Historical Name, Eastings, Northings, Top of Casing Elevation and Screen Interval are sourced from the Defence Esdat database. Some coordinates are not displayed for privacy reasons.
Bold denotes a residential/private property sampling location.

4.3.2 Surface Water and Wastewater Sampling Locations

The surface water and wastewater locations to be monitored during the initial three-year implementation period are provided in **Table 5** below and are presented on **Figure F3** in **Appendix A**. All surface water and wastewater locations are to be monitored during Biannual, Annual and Biennial sampling events.

Table 5 Surface Water and Waste Water Sampling Locations

On/Off-Site	Area	Location ID	Historical Name	Easting	Northing	Total # of sampling locations
On-Site	Northern Cantonment Boundary (Sub-catchment A)	SW002	SW002	328729.259	6390973.807	5
		SW003	SW003	328859.222	6390001.096	
		SW026	SMA13_SW	328164.578	6390625.598	
		SW032	SW032	328530.667	6390352.491	
		SW034	SMA8_SW	328312.374	6391404.917	
	Northern Cantonment Boundary	SW115	-	328672.762	6391497.564	1
	Central Cantonment (Sub-catchment B)	SW028	SMA7_SW	327647.549	6389841.745	2
		SW555	-	329034.221	6388589.839	
	Southern Cantonment (Sub-catchment C)	SW040	SW040	327490.162	6388869.22	3
		SW116	-	329813.515	6389737.446	
		SW114	-	329385.819	6389104.052	
	Dochra Airfield	SW004	SW004	332770.588	6387095.299	2
		SW005	SW005	331911.32	6387184.041	
Off-Site	North of Site (Doughboy Hollow Creek Catchment)	**OTH006***	OTH006	-	-	6
		SW036	RESI_SW036	-	-	
		SW064	RESI_SW041	-	-	
		SW065	RESI_SW042	-	-	
		SW553	SW553	-	-	
		SW563	SW563	-	-	
	East of Site (Doughboy Hollow Creek Catchment)	**SW039**	RESI_SW039	-	-	1
	West of Site (Doughboy Hollow Creek)	**SW035**	RESI_SW035	-	-	1

Note: Historical Name, Eastings and Northings are sourced from the Defence Esdat database. Some coordinates are not displayed for privacy reasons. **Bold** denotes a residential/private property sampling location. * denotes waste water sampling location.

4.3.3 Sediment Sampling Locations

The sediment locations to be monitored during the initial three-year implementation period are provided in **Table 6** below and are presented on **Figure F4** in **Appendix A**. All sediment locations are to be monitored during Biannual, Annual and Biennial sampling events.

Table 6 Sediment Sampling Locations

On/Off-Site	Area	Location ID	Historical Name	Easting	Northing	Total
On-Site	Northern Cantonment (Sub-catchment A)	SD002	SD002	328729.259	6390973.807	5
		SD003	SD003	328863.483	6390010.018	
		SD032	SD032	328530.667	6390352.491	
		SD053	SMA13_SD	328164.578	6390625.598	
		SD065	SMA8_SD	328320.652	6391418.74	
	Northern Cantonment Boundary	SD115	-	328672.762	6391497.564	1
	Central Cantonment (Sub-catchment B)	SD055	SMA7_SD	327647.549	6389841.745	2
		SD555	-	329034.221	6388589.839	
	Southern Cantonment (Sub-catchment C)	SD040	SD040	327490.162	6388869.22	3
		SD116	SD116	329813.515	6389737.446	
		SD114	-	329385.819	6389104.052	
	Dochra Airfield	SD004	SD004	332768.77	6387094.72	2
		SD005	SD005	331936.67	6387252.51	
Off-Site	North of Site	**SD046**	RESI_SD041	-	-	5
		SD047	RESI_SD042	-	-	
		SD080	RESI_SD013	-	-	
		SD539	SD539	-	-	
		SD563	SD563	-	-	
	East of Site	**SD039**	RESI_SD039	-	-	1
	West of Site	**SD052**	RESI_SD035	-	-	1

Note: Historical Name, Eastings and Northings are sourced from the Defence Esdat database. Some coordinates are not displayed for privacy reasons. **Bold** denotes a residential/private property sampling location

4.4 Sample Collection and Handling

4.4.1 Sampling Methodology

The sampling methodology for each media is presented in **Table 7**.

Table 7 Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater will be measured in each monitoring well prior to collection of groundwater samples. A comprehensive gauging round of all locations being sampled during an event will be conducted to enable groundwater contours to be developed.
Groundwater Sample Collection Methodology	**Groundwater Monitoring Wells** Groundwater samples will be collected from monitoring wells using a no-purge methodology with HydraSleeves™ which will be installed within the screened interval of the wells a minimum of 4 to 24 hours prior to sampling for the initial sampling round or when necessary to re-deploy. Care should be taken to avoid placing the base of the HydraSleeves™ at the base of the monitoring well, where a build-up of sediment may be present. The installation depth of the HydraSleeves™ is to be recorded (generally as HydraSleeve™ collar depth in mbTOC). HydraSleeves™ are to be installed / deployed in monitoring wells for a minimum of 4 hours prior to sampling, when deployed with bottom weights only, and for a minimum of 24 hours prior to sampling, when deployed with both top and bottom weights, to allow re-stabilisation of the well following disturbance, and if applicable, for the top weight to compress. Following sampling, field parameters are recorded ex-situ, from any excess water available in the HydraSleeve™. In the event that a HydraSleeve™ fails to deploy or has been removed inadvertently (i.e. by non-OMP project), the sample will be collected using a dedicated disposable high-density polyethylene (HDPE) bailer, if time or access constraints do not permit re-deployment of the HydraSleeve™ and subsequent sampling in the same sampling event. When sampling with a bailer, a minimum of three well volumes should be purged and purging should be continued until stabilisation of water quality parameters (to be collected continuously ex-situ) is achieved. If recharge is insufficient during purging, care should be taken to avoid purging the well dry and collecting the sample when reasonable to do so. Once sampling is completed, a new HydraSleeve™ will be deployed at the screened interval depth (consistent with the previous round) at each location in preparation for the next scheduled sampling round, where practicable. HydraSleeve™ sampling will be completed in accordance with the manufacturer's guidance. **Residential/Private Bores** Bore water samples will be collected by placing the laboratory provided sample bottle beneath the tap outlet and the tap slowly opened to collect the "first flush" of water.

Item	Details
Surface water Sample Collection Methodology	Surface water samples will be collected in accordance with the ASC NEPM (NEPC, 2013) and PFAS NEMP (HEPA, 2020). Samples will be collected from either mid-way through the water column or approximately 0.5 m below the surface (if possible) using a 'grab' sample method, without disturbing the bottom of the surface water body and without capturing any surface film, to minimise collection of sediment, or floating materials in the samples. At each location, a new, laboratory supplied container should be lowered into the water with the cap immediately applied once the container is full. Where sampling points cannot be accessed safely, surface water samples will be collected using a sampling pole. A description of each sampling location will be recorded (including physical setting, flow observations, presence of sheen or foam etc.).
Effluent Wastewater Sample Collection Methodology	Sample OTH006 will be collected from the in-flow effluent wastewater pipe beneath the STP pump house. The sample will be collected using a dedicated disposable bailer lowered through an access hatch in the base of the pump house. The sample will be collected directly into a new, laboratory supplied container with the cap immediately applied once the container is full. A description of the sampling location will be recorded (including physical setting, flow observations, presence of sheen of foam etc).
Sediment Sample Collection Methodology	Sediment samples will be collected in accordance with the ASC NEPM (NEPC, 2013) and PFAS NEMP (HEPA, 2020). Sediment samples are to be collected from a depth representative of potentially deposited sediments and collected from within the water body, if possible. Where embankment stability and surface water depth permits, sediment samples will be collected using a hand trowel to a maximum depth of 0.3 m below the sediment surface. Where access to sediment is restricted by bank instability or the presence of surface water, samples will be collected using a hand auger or Dormer Piston Sediment Sampler. A new laboratory supplied container will be used at each location for collection of samples, and any reusable sampling equipment utilised will be de-contaminated between locations. Description of each sampling location and the sample material will be recorded.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. blind and split duplicates), as well as rinsate blank samples, as specified in **Section 4.12**. Extra sample volume will be collected to enable the laboratory to complete their internal QA/QC analysis. An attempt to reduce potential heterogeneity in the sample media matrix will be undertaken by dividing the sample collected between primary and intra-laboratory jars or bottles during sampling.

Item	Details
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality will be recorded for all groundwater and surface water samples, including: • physical indicators such as the presence (and approximate proportion) of suspended solids, colour • the presence/absence and nature of odours and the presence/absence of slicks or sheens on water. Groundwater field parameters are to be collected ex-situ using excess water within the HydraSleeve™ (or bailer) following sample collection. Surface water field parameters are to be collected ex-situ using a dedicated cup (not used for sampling).
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.

4.4.2 Decontamination of sampling equipment

To avoid cross-contamination between samples and sample locations, all reusable sampling equipment, such as interface probe and trowel, will be de-contaminated between locations. The proposed method of decontamination is summarised below:

- Preliminary wash and scrub with tap water, after each sampling location.
- Wash using Liquinox®.
- Rinsed with tap water.
- Rinsed with deionised water (supplied by the laboratory).

Clean, disposable nitrile gloves will be worn and replaced between each sample.

4.4.3 Sample Handling and Transport to Laboratory

All samples will be placed on ice in eskies immediately after sampling, and kept, if possible, at low temperatures (<6°C) during transit to the laboratory, in accordance with ASC NEPM (NEPC, 2013).

Samples will be transported directly to the laboratory for analytical testing under standard CoC procedures. Primary and associated duplicate QA/QC samples will be analysed by Australian Laboratory Services (ALS) in Sydney. The inter-laboratory duplicate samples will be analysed by Envirolab Services (Envirolab) in Sydney.

4.5 Calibration

The water quality meter calibration will be tested each day via a “bump test” prior to the commencement of field activities with relevant solutions, including pH, EC and ORP.

The calibration will be in accordance with manufacturers’ instructions or 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 field sheets and included in the Sampling Event Factual Reports for each sampling round.

4.6 Logistics

The laboratory sample containers will be shipped from the laboratory to the AECOM office in Newcastle prior to the commencement of fieldwork.

All primary samples will be transported to the laboratory by field staff or by an ALS supplied courier, at the completion of fieldwork. All inter-laboratory duplicate samples will be couriered directly to the secondary laboratory under a separate COC for analysis.

4.7 Analytical Suite and Laboratory Analysis Methods

4.7.1 Laboratory NATA Accreditation Details

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

The primary and secondary laboratories selected for this program are ALS (NATA Accreditation Number 825) and Envirolab (NATA Accreditation Number 2901).

4.7.2 Analytical Schedule

All media sampled will be analysed for the extended PFAS suite in accordance with the Defence (2021) *Standard PFAS Analytical Suite* Guidance Document (**Appendix C**).

The current laboratory limits of reporting (LOR) for the primary laboratory are described in **Table 8** below.

Table 8 Laboratory Limits of Reporting

Sample Media	Parameter	Technique/Method Reference	LOR
Water	Extended PFAS Suite (Standard)	LCMS	0.01 – 0.1 µg/L
Sediment	Extended PFAS Suite (Standard)	LCMS	0.0002 – 0.001 mg/kg

LCMS = Liquid chromatography mass spectrometry

4.7.3 Validation of Analytical Results

Validation of analytical results may be required in the form of re-analysis by the reporting laboratory or through re-sampling and analysis, to confirm original results.

The requirement for re-sampling and/or re-analysis will be determined in consultation with Defence and will generally apply to results that are first-time detections of PFAS in water matrices, new exceedances of human health guidelines or consecutive increases of PFAS concentrations in sediments.

4.8 Sample Nomenclature

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

PPPP_XX000_ZZZ_YYMMDD

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

e.g. 0356_MW001_220201

Location types and codes are prescribed by the Defence Contamination Management Manual, Annex L Data Management (2018, Amended 2021) and the Site's investigation history.

Location types relevant to this SAQP include:

- MW = monitoring well
- OTH = other (e.g., wastewater)
- SW = surface water
- SD = sediment

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

- Blind duplicate (intra-laboratory duplicate): PPPP_QC1XX_YYMMDD

- Split duplicate (inter-laboratory duplicate): PPPP_QC2XX_YYMMDD
- Rinsate blank: PPPP_QC3XX_YYMMDD.

4.9 Defence Esdat Requirements

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

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

AECOM will ensure that electronic data deliverables (EDDs) from the laboratory include required information for automatic upload into the EDMS, such as including the correct Project ID in Esdat files and including the Defence Esdat auto-upload email address (DERP.LabReports@esdat.com.au) in the laboratory report recipient list.

4.10 Adopted Screening Criteria

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

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

- PFAS National Environmental Management Plan (NEMP) Version 2.0, Heads of EPA (HEPA) Australia and New Zealand. January 2020 (HEPA, 2020)
- Department of Health (DoH), 2017. Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017 (FSANZ, 2017)
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC, 2019)
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)

The screening criteria adopted to assess the data generated as part of this SAQP are presented in **Table 9** and **Table 10** below, for human and ecological receptors, respectively. Note that the HEPA NEMP 2.0 (2020) does not provide screening criteria for PFAS in sediments.

Table 9 PFAS Adopted Screening Criteria – Human Receptors

Media	Pathway	Compound	Criteria	Comment/Reference
Water – Groundwater	Drinking water	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP (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 tolerable daily intake (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, 2022) to determine drinking water values. *Results from all groundwater locations will be compared to these criteria.*
		PFOA	0.56 µg/L	

Media	Pathway	Compound	Criteria	Comment/Reference
Water – Surface Water	Recreational use	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. These values were adopted by the HEPA NEMP 2.0 (2020). *Results from all surface water locations will be compared to these criteria.*
		PFOA	10 µg/L	

Table 10 PFAS Adopted Screening Criteria – Ecological Receptors

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

4.11 Waste Management

Due to the proposed “no purge” sampling methodology adopted for the majority of the groundwater monitoring locations and the grab samples from the designated surface water sampling locations, it is not anticipated that significant volumes of liquid waste would be generated that would require onsite management and disposal.

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

4.12 Field Quality Assurance/Quality Control Sampling

4.12.1 Intra-laboratory and Inter-laboratory Duplicate Samples

Intra-laboratory (blind) duplicate samples and inter-laboratory (split) duplicate samples will be collected and analysed at a minimum frequency of 1 in 10 primary samples, in accordance with the quality control and quality assurance requirements outlined in OMP (Defence, 2021a) and HEPA (2020).

4.12.2 Rinsate Samples

Rinsate blank samples will be collected and analysed at a minimum frequency of 1 per day of fieldworks, in accordance with the quality control and quality assurance requirements outlined in OMP (Defence, 2021a) and HEPA (2020).

Rinsate blanks are to be collected by pouring laboratory supplied deionised water over decontaminated sampling equipment that will be re-used (e.g. interface probe, trowel).

4.13 Fieldwork Documentation

4.13.1 Field Notes

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

- Weather conditions, and visual or olfactory conditions at the location
- Location coordinates and means of access, and any changes from previous access to a specific location
- Groundwater samples – the observed characteristics of the sample (e.g. colour, turbidity, presence/absence and nature of odours, presence/absence of slicks or sheens) and measured field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded. Condition of monitoring wells and gauging details will also be recorded.
- Surface water samples – the observed characteristics of the sample (e.g. colour, turbidity, presence/absence and nature of odours, presence/absence of slicks or sheens) and field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded. Additionally, a description of each surface water sampling location will be recorded, such as indicating the waterbody type (lake, stream, etc.), presence/absence of water flow, and waterbody width.
- Wastewater samples – the observed characteristics of the sample (e.g. colour, turbidity, presence/absence and nature of odours, presence/absence of slicks or sheens) will be recorded.
- The quality control (e.g. duplicate and inter-laboratory duplicate) sample details be recorded.

AECOM's tablet-based Environmental Data Collection and Analysis ('EDCA') tool (or equivalent) may be utilised 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.

4.13.2 Sample Labels

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

- AECOM project number
- Name of sampler
- Sample ID
- Date of sample collection.

An indelible felt pen will be used for labelling, to ensure that the lettering is not erased during transit to the laboratory. Sample containers that are sent to the primary laboratory, ALS, will also be scanned into the laboratory's custom-built mobile app (by scanning the barcode applied to each laboratory-supplied container) for streamlined labelling and COC creation and to ensure compliant sample IDs are used in the field.

4.13.3 Chain of Custody Forms

A COC form will be completed, documenting the sample identification number and analytes. The COC documents the chain of events from sample collection to delivery at the laboratory and provides a

traceable account of sample handling. The form will be signed by both the sample collector and the receiving laboratory, and will include the following information:

- job number
- date and time of sample collection
- sample IDs
- type of containers
- name of sampler
- laboratory to be used
- analyses required
- any comments
- signatures of the sampler and laboratory receiver.

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

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

4.14 Reporting

4.14.1 Sampling Event Factual Report

A Sampling Event Factual Report will be prepared and submitted to Defence following the completion of each sampling event. The Sampling Event Factual Report will include:

- details of the scope completed
- a description of the sampling methodologies used
- identification of any components of the scope that could not be completed
- a summary of field observations (e.g. any visual or olfactory observations that may indicate impacts to surface water, waste or groundwater) and water quality parameter measurements
- evaluation of the applicability of adopted assessment levels
- a presentation of the analysis results in a table that includes comparisons with PFAS guidelines
- a presentation of groundwater levels for the event on a figure with inferred contours and inferred groundwater flow direction
- review of the suitability of the data for assessment purposes (QA/QC evaluation)
- inclusion of the following information as attachments:
    - Field data including field water quality parameter and gauging measurements
    - Chain of custody forms
    - Laboratory analytical certificates
    - Equipment calibration certificates.

The Sampling Event Factual Report will be provided to Defence no later than four weeks after completion of the field component. Defence will be informed in the case of delays in laboratory results.

4.14.2 Ongoing Monitoring Report

An Ongoing Monitoring Report (OMR) will be prepared periodically and submitted to Defence. The OMR will include:

- Evidence of compliance with the requirements of the SAQP and meeting stated objectives of the OMP (Defence, 2021a).
- Details of the scope completed, sampling methodologies used, and identification of any components of the scope that could not be completed.
- 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.
- Relevant figures depicting sampling locations and site-specific hydrogeological features.
- Laboratory results and analysis including comparison with the adopted screening criteria.
- Assessment and commentary on appropriate QA/QC procedures.
- Data interpretation, including trends in PFAS concentrations in various media, trends in groundwater gradient and flow directions.
- Assessment of statistically based trends that may inform decision making when it comes to the revision of the OMP (Defence, 2021a) including whether a review of the Conceptual Site Model is required or 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.
- Inclusion of the following information as attachments:
  - Sampling Event Factual Reports completed during the OMR period which include:
    - Sample location figures
    - Field data including field water quality parameter and gauging measurements
    - Chain of custody forms
    - Laboratory analytical certificates
    - Equipment calibration certificates

4.15 Deviations from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP (Defence, 2021a), a number of points of deviation are noted (refer to **Table 11** below).

Table 11 Deviations from OMP

No.	Description	Rationale
1	Monthly Sampling	The OMP (Defence, 2021a) lists two surface water locations as proposed for monthly sampling for a minimum of 12 months. AECOM has sought clarification on the sampling frequency. It was confirmed by Defence via email on 3 March 2022 that monthly sampling is not required as part of the OMP.
2	Groundwater Sampling Methodology	The OMP (Defence, 2021a) specifies that groundwater samples are to be collected using no-purge methodology with HydraSleeves™. In the event that a HydraSleeve™ fails to deploy or has been removed inadvertently (i.e. by non-OMP project), the sample will be collected using a dedicated disposable bailer.

No.	Description	Rationale
3	Sediment Sampling Methodology	The OMP (Defence, 2021a) specifies that sediment samples are to be collected using a hand auger from the base of the drain where it is safe to do so. In order to ensure consistency and comparability across the Defence OMP Program, sediment samples are to be collected using a hand trowel, where safe to do so.
4	Human Health Surface Water Screening Criteria	The OMP (Defence, 2021a) specifies that results from surface water locations be screened against the human health screening criteria for drinking water of 0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA. Based on a review of the CSM and water use information presented in the PMAP (Defence, 2021b), the screening of surface water results against the HEPA (2020) drinking water criteria is not applicable given that the source>pathway>receptor is considered to be incomplete. Therefore, surface water results will only be screened against recreational use human health screening criteria and ecological screening criteria.
5	Human Health Groundwater Screening Criteria	The OMP (Defence, 2021a) specifies that results from groundwater locations be screened against the human health screening criteria for recreational use of water of 2 µg/L for PFOS+PFHxS and 10 µg/L for PFOS. Based on a review of the CSM and water use information presented in the PMAP (Defence, 2021b), the screening of groundwater results against the HEPA (2020) recreational use criteria is not applicable given that the source> pathway>receptor is considered to be incomplete. Therefore, groundwater results will be screened against drinking water human health screening criteria and ecological screening criteria only.
6	Rinsate frequency	The OMP (Defence, 2021a) states that rinsate samples will be collected at a rate of one sample per fieldwork day or at least one rinsate sampler per ten primary samples (whichever rate is lower) by pouring laboratory supplied deionised water over the decontaminated sampling equipment. To align with other OMPs in the NSW & JBT Region, rinsates are proposed to be collected at a rate of one per day of sampling (per media) where equipment is decontaminated and reused between sampling locations using laboratory supplied deionised water.
7	Major Cations and Anions Analysis	On 27 January 2021, Defence instructed AECOM to discontinue the analysis of samples for non-PFAS analytes unless it was specifically requested by Defence. As a result, AECOM will not analyse OMP groundwater and surface water samples collected from the Site for anions and major cations.

No.	Description	Rationale
8	Removal of MW012	During the initial OMP sampling event in July 2022, AECOM noted that monitoring well MW012 appeared to have been destroyed during the demolition of the former fire station. Given that the remaining monitoring well network provides sufficient coverage of groundwater in this area, it was recommended that this location be removed from the OMP scope of works.
9	Renaming of co-located sediment and surface water samples	Co-located surface water and sediment location SW113 / SD113 was incorrectly named in the OMP (Defence, 2021a) as an existing entry for SD113 was identified in Defence Esdat. To mitigate the duplication of location codes in Defence Esdat, AECOM has renamed this location SW116 and SD116.
10	Replacement of SD540 and SW554 with SD563 and SW563	Co-located surface water and sediment location SW554 and SD540 were not able to be accessed during the January 2023 sampling event. Additionally, upon further review, the location was not within Singleton Council owned land as originally thought, and the owner of the parcel of land could not be determined. A new, replacement co-located surface water and sediment location, SW563 and SD563, has since been identified, which is further north of the original location, targeting the same body of water and within Singleton Council owned land.

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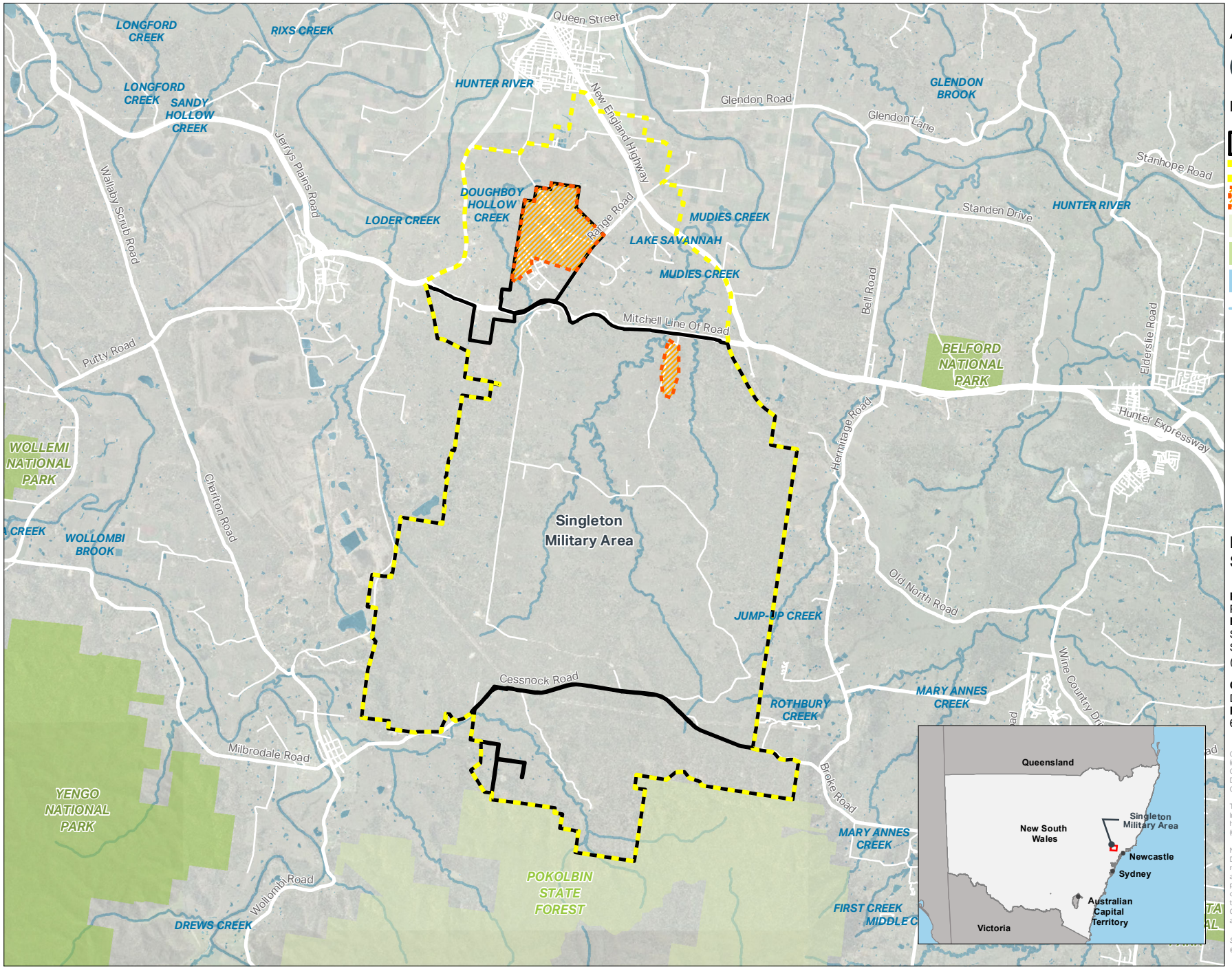
Appendix A

Figures



AECOM

N

0 1.5 3 km

Legend

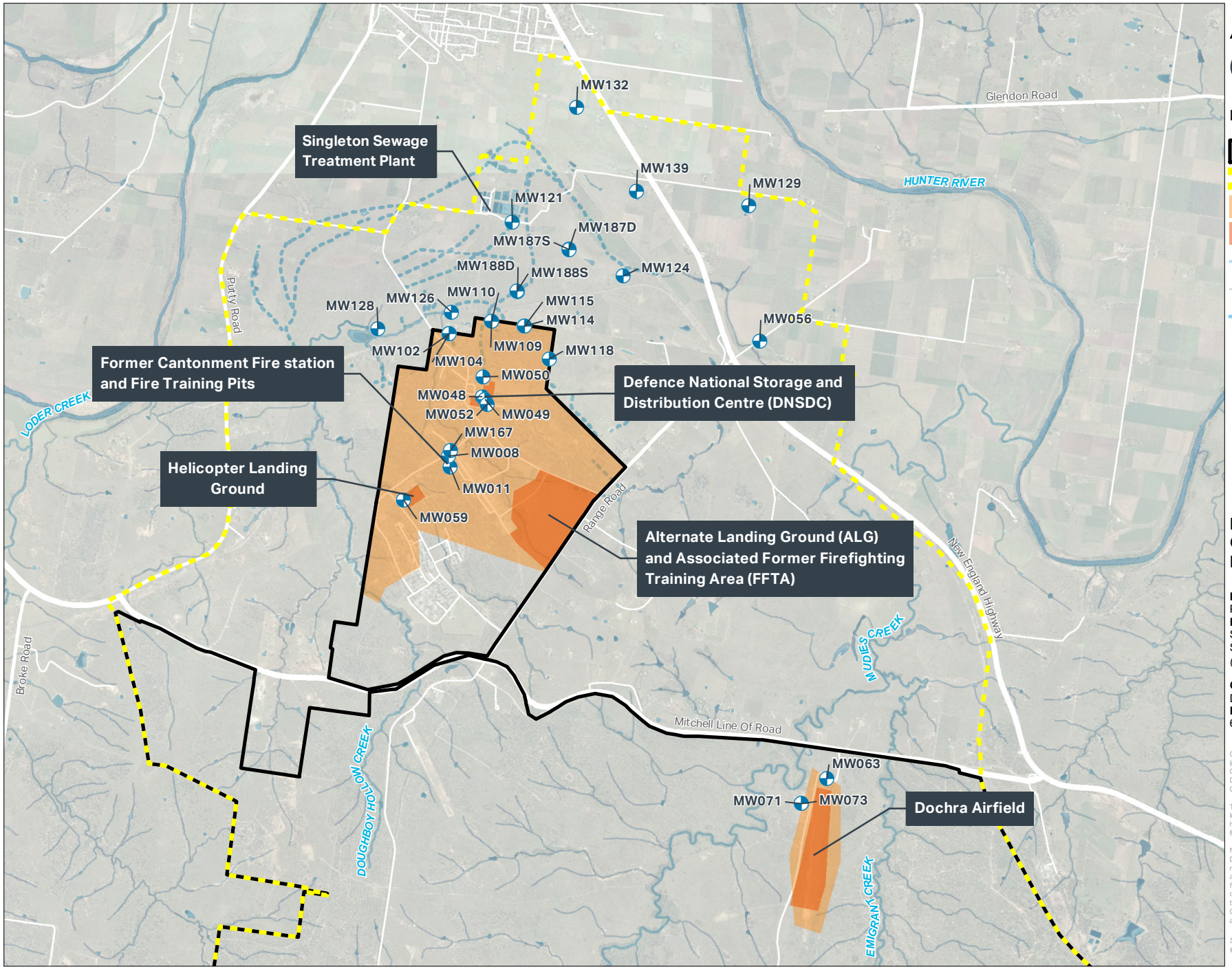
- Site Boundary
- Former Investigation Area
- On-site Management Area
- State Forest
- NPWS Reserve
- Waterbody
- Watercourse

FIGURE F1:
SITE LAYOUT

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Singleton Military Area
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

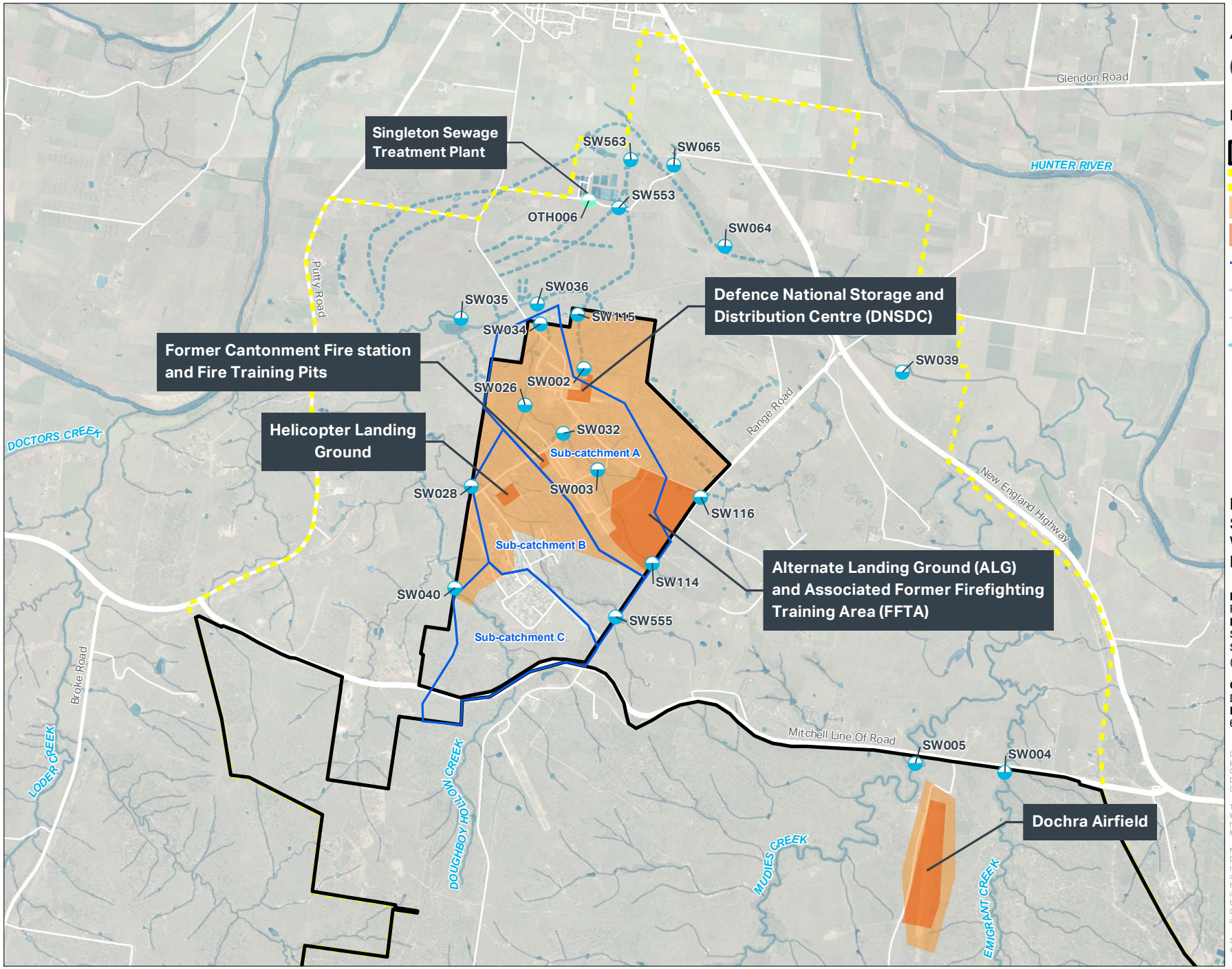
- Site Boundary
- Former Investigation
- On-site Management
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Groundwater Sample Location

FIGURE F2:
GROUNDWATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Singleton Military Area
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Area
- Catchment Boundaries
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Surface Water Sample Location
- Wastewater Sample Location

FIGURE F3:
SURFACE WATER AND WASTEWATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Singleton Military Area
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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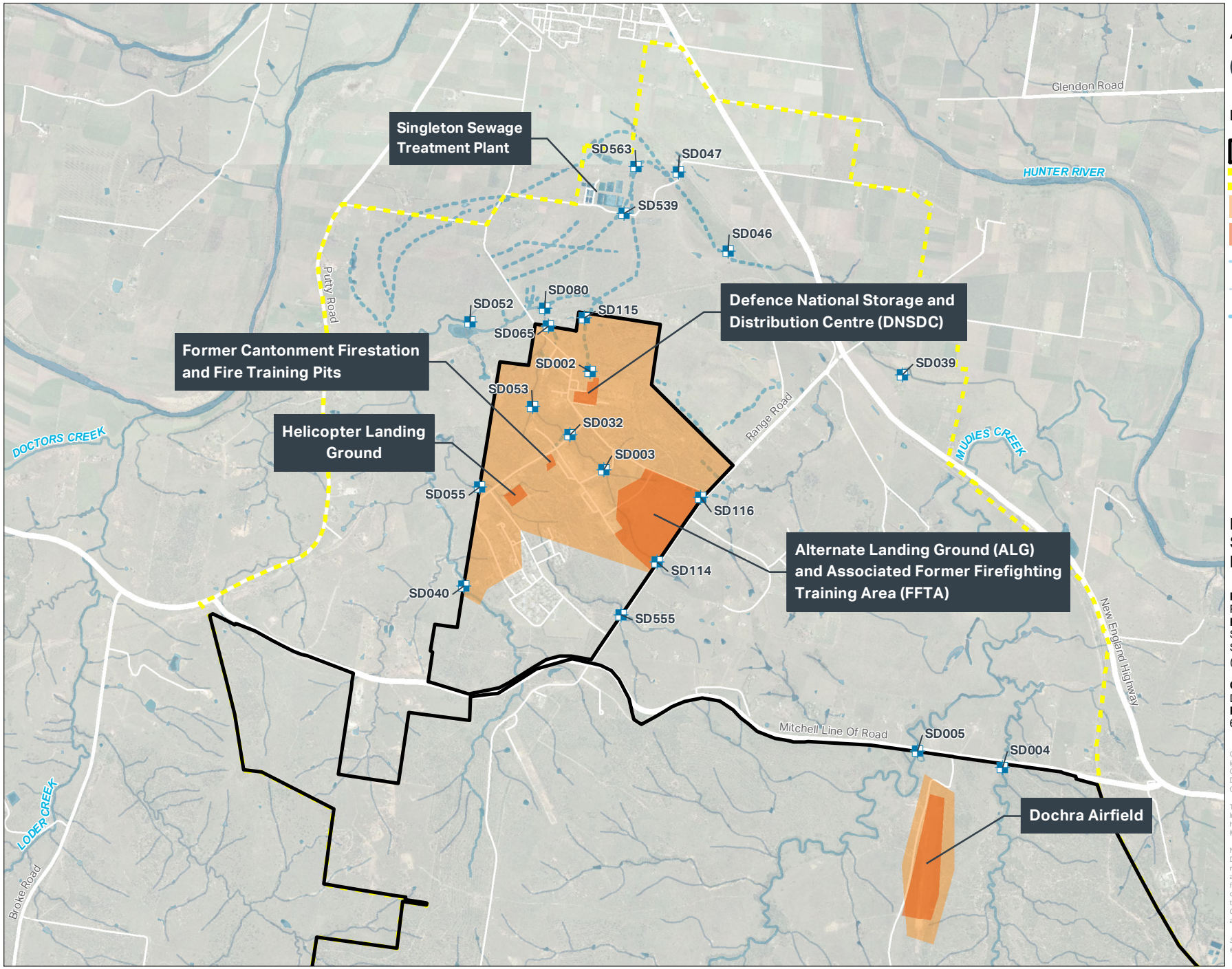

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation
- On-site Management
- PFAS Source Area
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Sediment Sample Location

FIGURE F4:
SEDIMENT SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Singleton Military Area
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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Appendix B

Standard PFAS Analytical Suite Guidance

Australian Government
Defence

Department of Defence

PFAS INVESTIGATION AND MANAGEMENT

GUIDANCE DOCUMENT E
STANDARD PFAS ANALYTICAL SUITE

Document Version History

Document Reference	Revision	Date
AF29889468	1	10 July 2017
AF32594670	2	21 March 2018
AF32594670	3	6 April 2018
BS24034025	4	1 October 2021
BS24034025	5	29 June 2022

Analytical laboratories analyse a range of PFAS which includes a small subset of all possible PFAS. These analytical suites vary between laboratories and over time as new chemical standards become available. The minimum suite required for Defence PFAS investigations and management is listed in Table 1.

Table 1 Minimum PFAS analytical suite for Defence PFAS investigations and management

Group	Acronym	Chemical Compound	CAS No.
Perfluoroalkane Sulfonic Acids	PFBS	Perfluorobutane sulfonic acid	375-73-5
	PFPeS	Perfluoropentane sulfonic acid	2706-91-4
	PFHxS	Perfluorohexane sulfonic acid	355-46-4
	PFHpS	Perfluoroheptane sulfonic acid	375-92-8
	PFOS	Perfluorooctane sulfonic acid	1763-23-1
	PFDS	Perfluorodecane sulfonic acid	335-77-3
Perfluoroalkane Carboxylic Acids	PFBA	Perfluorobutanoic acid	375-22-4
	PFPeA	Perfluoropentanoic acid	2706-90-3
	PFHxA	Perfluorohexanoic acid	307-24-4
	PFHpA	Perfluoroheptanoic acid	375-85-9
	PFOA	Perfluorooctanoic acid	335-67-1
	PFNA	Perfluorononanoic acid	375-95-1
	PFDA	Perfluorodecanoic acid	335-76-2
	PFUnDA	Perfluoroundecanoic acid	2058-94-8
	PFDoDA	Perfluorododecanoic acid	307-55-1
	PFTrDA	Perfluorotridecanoic acid	72629-94-8
	PFTeDA	Perfluorotetradecanoic acid	376-06-7
Perfluoroalkyl Sulfonamides	FOSA	Perfluorooctane sulfonamide	754-91-6
	MeFOSA	N-Methyl perfluorooctane sulfonamide	31506-32-8
	EtFOSA	N-Ethyl perfluorooctane sulfonamide	4151-50-2
	MeFOSE	N-methyl perfluorooctane sulfonamidoethanol	24448-09-7
	EtFOSE	N-Ethyl perfluorooctane sulfonamidoethanol	1691-99-2
	MeFOSAA	N-methyl perfluorooctane sulfonamidoacetic acid	2355-31-9
	EtFOSAA	N-ethyl perfluorooctane sulfonamidoacetic acid	2991-50-6
(n:2) Fluorotelomer Sulfonic Acids	4:2 FTS	4:2 Fluorotelomer sulfonic acid	757124-72-4
	6:2 FTS	6:2 Fluorotelomer sulfonic acid	27619-97-2
	8:2 FTS	8:2 Fluorotelomer sulfonic acid	39108-34-4
	10:2 FTS	10:2 Fluorotelomer sulfonic acid	120226-60-0

The minimum PFAS analytical suite is based on consideration of analytical capability and the dominant PFAS that are likely to be present in environmental media due to legacy contamination from AFFF used by Defence. In specific instances, for example analysis of AFFF concentrates, it may be necessary to use other methods such as the TOP and/or TOF assays. In these cases, the analytical methods need to be established by data quality objectives (DQOs) for the project.

The laboratory is required to use NATA accredited methods for PFAS quantification based on guidance in the *PFAS National Environmental Management Plan* (NEMP, 2020).

END OF TEXT

Appendix E

OMP Sampling Event Reports

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, July 2023

PFAS OMP - Singleton Lone Pine Barracks (Site ID 0356)

18-Jan-2024
Doc No. 20240118_OMP002_SMA_SamplingEventFactualReport_Rev0

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Delivering a better world

Sampling Event Factual Report, July 2023

PFAS OMP - Singleton Lone Pine Barracks (Site ID 0356)

Client: Department of Defence

ABN: 68706814312

Prepared by

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18-Jan-2024

Job No.: 60612562

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Date	18-Jan-2024

Revision History

Rev	Revision Date	Details
A	21-Nov-2023	Draft
B	22-Dec-2023	Draft
0	18-Jan-2024	Final

Table of Contents

List of Tables (in Text)

List of Acronyms

Acronym	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
AHD	Australian Height Datum
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure
BOM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved Oxygen
DoH	Department of Health
DQI	Data Quality Indicator
DQO	Data Quality Objective
EC	Electrical Conductivity
EPA	Environment Protection Authority
FSANZ	Food Standards Australia New Zealand
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
JBT	Jervis Bay Territory
LOR	Limit of Reporting
MW	Monitoring Well
NATA	National Analytical Testing Authority
NEMP	National Environmental Management Plan
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OMIR	Ongoing Monitoring Interpretive Report
OMP	Ongoing Monitoring Plan
ORP	Oxidation Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control

Acronym	Term
RPD	Relative Percentage Difference
SAQP	Sample and Analysis Quality Plan
SD	Sediment
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Standing Water Level
TOC	Top of Casing
WQM	Water Quality Meter

List of Units

Units	Term
µg/L	Micrograms per Litre
µS/cm	Micro Siemens per centimetre
g	Grams
km	Kilometre
L	Litre
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mbTOC	Metres below Top of Casing
mg/kg	Milligrams per kilogram
mg/L	Milligrams per Litre
mV	Millivolts

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) has been engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) at the Singleton Military Area (SMA) (the 'Site') in the New South Wales (NSW) Region. The location of the Site and surrounding areas is shown in **Figure F1** in **Appendix A**.

The OMP (Defence, 2021c) outlines the sampling requirements for the Site and off-Site areas within the Management Area.

Following each sampling event, a factual sampling event report is be prepared. An Ongoing Monitoring Interpretive Report (OMIR) will be prepared following the completion of each 12-month sampling period.

This Sampling Event Factual Report has been prepared to report the results of the July 2023 annual sampling event, specifically highlighting first-time detections and/or new exceedances of human health or ecological screening criteria for the sum of Perfluorooctane sulfonic acid (PFOS) and Perfluorohexane sulfonic acid (PFHxS) (herein referred to as PFOS+PFHxS), PFOS and/or Perfluorooctanoic acid (PFOA) in surface water and groundwater. Trends in concentrations of the abovementioned PFAS in sediment and wastewater effluent are also reported.

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2021c) prepared as part of the Detailed Environmental Investigations; and
- collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, transport, and transformation of PFAS.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PFAS Management Area Plan (PMAP) (Defence, 2021b).

The objective of this phase of works was to implement the scope of works for the July 2023 annual sampling event in accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2023).

2.0 Scope of Work

The scope of works was completed generally in accordance with the SAQP, as follows:

- obtain permission (where required) to conduct works at the Site, off-Site publicly accessible areas and at private properties
- gauging of groundwater level in monitoring wells prior to collection of samples
- collection of groundwater samples and water quality parameters at 16 of 19 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations). Note that two monitoring wells were subsequently resampled and analysed to confirm original results.
- collection of surface water samples and water quality parameters at 17 of 20 scheduled surface water locations (refer to **Table 2** below and **Figure F3** in **Appendix A** for specific locations)
- collection of sediment samples at 20 of 20 scheduled sediment locations (refer to **Table 3** below and **Figure F4** in **Appendix A** for specific locations)
- collection of wastewater effluent sample at one scheduled location (refer to **Table 3** below and **Figure F3** in **Appendix A** for specific locations)
- collection of field intra-laboratory duplicate samples at a rate of 1 in 10 primary samples
- collection of field inter-laboratory duplicate samples at a rate of 1 in 10 primary samples
- analysis of samples for PFAS full suite (28 analytes) at the standard limit of reporting (LOR)
- data management of the OMP field and laboratory data in Defence ESdat database
- preparation of this Sampling Event Factual Report.

The deviations from the scheduled scope of works are discussed in detail in **Section 3.0**

Table 1 Groundwater Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment Boundary	MW102, MW104*, MW109, MW110, MW114, MW115, MW118	7
Off-Site	North of Site	**MW121**, **MW126#**, **MW132**, **MW187D**, **MW187S**, **MW188D**, **MW188S**	7
	Northeast of Site	**MW056#**, **MW124**, **MW129***, **MW139***	4
	Northwest of Site	**MW128**	1
Total			**19**

* Location not sampled
# Location resampled to confirm results
Bold text denotes private property / Council location

Table 2 Surface Water and Wastewater Effluent Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment Boundary (Sub-catchment A)	SW002, SW003, SW026, SW032, SW034	5
	Central Cantonment (Sub-catchment B)	SW028, SW555	2
	Northern Cantonment Boundary	SW115*	1
	Southern Cantonment (Sub-catchment C)	SW040, SW114*, SW116*	3

Area	Description	Sampling Location	Total
	Dochra Airfield	SW004, SW005	2
Off-Site	North of Site (Doughboy Hollow Creek Catchment)	**OTH006^, SW036, SW064, SW065, SW553, SW563**	6
	East of Site (Doughboy Hollow Creek Catchment)	**SW039**	1
	West of Site (Doughboy Hollow Creek Catchment)	**SW035**	1
Total			**21**

* Location not sampled

^wastewater effluent location

Bold text denotes private property / Council location

Table 3 Sediment Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment (Sub-catchment A)	SD002, SD003, SD032, SD053, SD065	5
	Northern Cantonment Boundary	SD115	1
	Central Cantonment (Sub-catchment B)	SD055, SD555	2
	Southern Cantonment (Sub-catchment C)	SD040, SD116, SD114	3
	Dochra Airfield	SD004, SD005	2
Off-Site	North of Site	**SD046, SD047, SD080, SD539, SD563**	5
	East of Site	**SD039**	1
	West of Site	**SD052**	1
Total			**20**

Bold text denotes private property / Council location

3.0 Deviations from the SAQP

The July 2023 annual sampling event was completed in general accordance with the SAQP with the exception of the deviations outlined in **Table 4** below.

Table 4 Deviations from SAQP (AECOM, 2023)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, and associated field parameters, were not collected from 3 of the 19 scheduled groundwater sampling locations.	Groundwater monitoring well MW104 was observed to have insufficient water volume to be sampled during the sampling event.	The lack of sampling data is not considered to have a significant impact on the dataset, or present a significant data gap, as a nearby well (MW110) was sampled, targeting the same shallow aquifer, and located along the Northern Cantonment Boundary.
	MW129 and MW132 were unable to be accessed and could not be sampled during this sampling event.	The lack of sampling data at these locations presents a potential data gap in monitoring the extent of PFAS in groundwater off-Site to the north east. AECOM will attempt to engage with the private property owners again ahead of the next scheduled OMP event to arrange access.
Samples, and associated field parameters, were not collected from 3 of the 20 scheduled surface water locations.	Surface water locations SW114, SW115 and SW116 were dry and could not be sampled during this sampling event.	The lack of sampling data at these locations is not considered to have a significant impact on the dataset, or present a significant data gap, given that it confirms that the source>receptor>pathway linkages for PFAS in surface water were incomplete at the time of sampling. AECOM will attempt to sample these locations again during the next sampling event in January 2024.
Resampling of 2 of the 19 groundwater sampling locations.	Given the results of groundwater monitoring wells MW056 and MW126 (located on private properties) reported a significant increase in PFOS+PFHxS concentrations, above drinking water guideline criteria (0.07 µg/L) for samples collected in July 2023, these locations were resampled in October 2023 to confirm the results.	The additional sampling data for MW056 confirmed the original (July 2023) results for both methods of sampling. The risk profile for this property may have changed and should be reassessed. The additional sampling data for MW126 were within the historical range, and below human health screening criteria. The impact on the dataset and update to the understanding of the conceptual site model will be discussed in the OMIR.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the July 2023 annual sampling event was in general accordance with the SAQP (AECOM, 2023) and is summarised in **Table 5** below.

Table 5 Sampling Methodology

Item	Details
Groundwater gauging	On 19 July 2023, a targeted gauging round was completed at accessible monitoring wells. The depth to groundwater (in metres below top of casing [mbTOC]) was measured in each monitoring well during this targeted gauging event. The depth to groundwater (mbTOC) was also measured in each accessible monitoring well immediately prior to collection of groundwater. Measurements of depth to groundwater were undertaken using an interface probe, which was tested by the supplier to ensure the instrument was fully operational prior to despatch and use. The equipment supplier records are provided in **Appendix C**.
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for groundwater and surface water samples. Field parameters were collected ex-situ using a calibrated water quality meter (WQM). The equipment supplier and field calibration records are provided in **Appendix C**.
Sampling methodology	**Groundwater Monitoring Wells** Groundwater samples were collected from each monitoring well using either a bailer and low flow sampling technique combination or HydraSleeves™, a no-purge sampling methodology. HydraSleeves™ were installed within the screened interval of the wells for a minimum of 4 hours prior to the sampling round, based on a review of the well construction log. For this event, all the HydraSleeves™ were installed during the previous sampling round in January 2023 as well as in this sampling event in July 2023. The resampling of MW056 and MW126 in October 2023 was completed by the use of two separate methods to confirm the elevated results for samples collected in July 2023. The groundwater samples from the two wells were collected using: - HydraSleeves™ as per the SAQP (AECOM, 2023); and - Bailer and low flow sampling methodology. Prior to sampling, each well was developed using a stainless-steel bailer, comprising of the removal of 10 well volumes. The sample was collected following groundwater recharge using a peristaltic pump with dedicated tubing. Once sampling was completed, new HydraSleeves™ were deployed in each of the monitoring wells, within the screened interval depth in preparation for the next sampling round. **Residential Bore** Bore water sample, MW139 was collected by placing the laboratory provided sample bottle beneath the tap outlet.

Item	Details
	Surface Water Surface water samples were collected from either mid-way through the water column or approximately 0.5 m below the surface, without disturbing the bottom of the surface water body, and without capturing any surface film or floating materials in the samples. At each location, a new, laboratory supplied container was lowered into the water (either by hand or using a sampling pole) with the cap immediately applied once the container was full. **Sediment** Sediment samples representative of potentially deposited sediments were collected from within the water body, using a hand trowel to a maximum depth of 0.3 metres below ground level (mbgl). A new laboratory supplied container was used at each location for collection of samples. **Wastewater Effluent Sample** Sample OTH006 was collected from the in-flow effluent wastewater pipe beneath the Sewage Treatment Plant (STP) pump house. The sample was collected using a dedicated disposable bailer lowered through an access hatch in the base of the pump house. The sample was decanted directly into a new, laboratory supplied container with the cap immediately applied once the container was full.
QA/QC Samples	A QA/QC program was implemented for the sampling and analysis program in order to obtain representative data and assess the reliability of the data obtained. To facilitate the QA/QC program the following sample types were obtained during the sampling program: • *Intra-laboratory duplicates* collected at a rate of 1 in 10 primary samples. The relative percentage difference (RPD) should be less than 30%, or less than 50% if results are less than 20 times the limit of reporting (LOR). Higher RPDs may also be acceptable if results are less than 10 times the LOR. • *Inter-laboratory duplicates* collected at a rate of 1 in 10 primary samples. The RPD should be less than 30%, or less than 50% if results are less than 20 times the LOR. Higher RPDs may also be acceptable if results are less than 10 times the LOR. • *Rinsate blanks* collected at a frequency of one per set of sampling equipment per day where equipment was reused between locations. Analytical results should be below the laboratory LOR. For this July 2023 annual sampling event, the QA/QC samples included: • 8 x intra-laboratory duplicates (3 groundwater, 3 surface water and 2 sediment) which met the target frequency • 8 x inter-laboratory duplicates (3 groundwater, 3 surface water and 2 sediment) which met the target frequency • 3 x rinsate blanks, which met the target frequency. The data validation assessment is presented in **Appendix D**.

Item	Details
Sample analysis	Samples were submitted to the primary and secondary laboratories for PFAS full suite (28 analytes) at the standard limit of reporting (LOR). ALS Environmental (ALS) Sydney, NSW was used as the primary laboratory. Envirolab Services (Envirolab) Sydney, NSW was used as the secondary laboratory. ALS and Envirolab methods for analyses were certified by the National Association of Testing Authorities (NATA). A summary of the laboratory results is presented in **Section 5.3** and the laboratory certificates are presented in **Appendix E**.

4.2 Adopted Screening Criteria

Guidance documents used to assess the dataset include the following:

- Heads of EPAs Australia and New Zealand (HEPA) 2020. *PFAS National Environmental Management Plan 2.0*. January 2020.
- Department of Health, 2017. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.
- FSANZ, 2017. *Supporting Document 1: Hazard assessment report – Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorohexane Sulfonate (PFHxS).*
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water.* August 2019.
- National Environment Protection Council (NEPC), 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B1 Guideline on Investigation Levels For Soil and Groundwater.*

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

Table 6 Summary of Adopted Screening Criteria: Water

Media	Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors				
Water – Groundwater	Drinking water	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 Tolerable Daily Intake (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), 2011 (updated in January 2022) 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*
		PFOA	0.56 µg/L	

Media	Pathway	Compound	Criteria	Comment/Reference
				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 were compared to these criteria.*
Water – Surface Water	Recreational use	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. These values were adopted in the PFAS NEMP, 2020. *All surface water results were compared to these criteria.*
		PFOA	10 µg/L	
Ecological Receptors				
Water – Groundwater and Surface Water	Freshwater	PFOS	0.00023 µg/L	The values are from the PFAS NEMP, 2020 which endorsed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 99% species protection level (for freshwater and interim marine) has been applied for high value conservation systems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. It is proposed that the laboratory LOR is adopted for the purposes of preliminary screening of analytical water results, rather than sole use of the criteria value. *All groundwater and surface water results were compared to these criteria.*
		PFOA	19 µg/L	

4.3 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. Data validation assessment is provided in **Appendix D**.

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

Following the reporting of new exceedances at three locations (MW056, MW126 and SW002), the primary laboratory confirmed the originally reported concentrations by re-analysis.

Additionally, MW056 and MW126 were resampled on 25 October 2023 to confirm the results for samples collected on 19 and 18 July, respectively. The following were observed:

- **MW056**: The PFAS concentrations for samples collected in October 2023 were similar to the July 2023 results, therefore confirming the increase in concentrations at this location.

- **MW126**: The PFAS concentrations for samples collected in October 2023 were significantly less than those reported in July 2023 sample, and also similar to historical results. The resampling indicates that the PFAS results for the July 2023 sample are anomalous.

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

5.0 Field Observations and Results

5.1 General Observations

The weather conditions and general observations (including activities that may impact the monitoring program) recorded during the July 2023 annual sampling event completed between 17 and 19 July 2023, with resampling of selected locations completed on 25 October 2023 are summarised in **Table 7** below.

Table 7 General Observations

Items	Observations
Weather Conditions	During the sampling event, the weather was observed to be dry and cool, with maximum daily temperatures between 17.4˚C (19 July 2023) and 22.5˚C (18 July 2023). During the resampling event on 25 October 2023, the weather was dry and warm, with a maximum daily temperature of 27˚C. No rainfall was recorded at Singleton (Singleton Defence AWS, Station 061430) (Bureau of Meteorology, 2023) during the sampling event (including resampling on 25 October 2023).
Estate Management Works, Training Activities and/or Construction Works.	No estate management works, training activities or construction works were observed during the sampling event, that would impact the sampling program.

5.2 Field Observations and Measurements

The observations and measurements recorded during the field activities for the July 2023 annual sampling event are summarised in **Table 8**, below.

Table 8 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	All wells sampled were observed to be in good condition, with the exception of the following: • MW188D had a damaged monument, with both the casing and monument snapped off at ground level, and casing was exposed at ground level. The integrity of the monitoring well may be compromised given the potential for surface water ingress.
Water Observations	No visible signs of contamination were observed in groundwater and surface water at the locations sampled. An organic odour was observed at the wastewater effluent location (OTH006).

Item	Description
Depth to Groundwater and Flow Direction	Depth to groundwater ranged from 5.240 (MW056) and 17.750 (MW118) metres below top of casing (mbTOC). Groundwater elevation ranged between 29.47 (MW056) and 35.3420 (MW118) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. Inferred shallow and deep groundwater contours and groundwater flow directions are shown on **Figure F5** and **Figure F6** respectively in **Appendix A,** based on data collected during the targeted gauging round on 19 July 2023. The inferred groundwater flow direction at the Site for both the shallow and deep aquifers was to the north-east of the Site, which was generally consistent with the Detailed Site Investigation (DSI) (AECOM, 2019).
Geochemical Parameters	Groundwater and surface water geochemical parameters were measured during the collection of water samples. The readings are presented in **Table T2** and **Table T3** in **Appendix B** and are summarised below: **Groundwater Geochemical Parameters** • Dissolved oxygen readings from 0.94 mg/L (MW188D) to 10.37 mg/L (MW139) indicating poor to well oxygenated conditions. • Electrical conductivity readings from 754 µS/cm (MW121) to 19,965 µS/cm (MW102) indicating fresh to saline conditions. • pH ranged from 6.28 (MW118) to 8.78 (MW188D) indicating near-neutral to moderately alkaline conditions. • Redox ranged from 23.3 mV (MW188D) to 344.0 mV (MW139) indicating mildly reducing to oxidising conditions. • Temperature ranged from 12.9˚C (MW139) to 23.9˚C (MW126). **Surface Water Geochemical Parameters** • Dissolved oxygen ranged from 2.45 mg/L (SW002) to 12.08 mg/L (SW003) indicating generally well oxygenated conditions. • Electrical conductivity ranged from 283.6 µS/cm (SW004) to 4,812 µS/cm (SW005) indicating fresh to saline conditions. • pH ranged from 6.54 (SW028) to 7.98 (SW563) indicating neutral to slightly alkaline conditions. • Redox ranged from 170.9 mV (SW002) to 362.5 mV (SW555) indicating mildly reducing to oxidising conditions. • Temperature ranged from 12.1˚C (SW028) to 20.5˚C (SW035).
Sediment Observations	Sediment sampled and logged during this monitoring event comprised sand, clay and silty clay materials with minor inclusions of organic materials (mostly rootlets). No anthropogenic inclusions or staining were observed. An organic odour was observed at one sediment location (SD053). Refer to in **Table T4** in **Appendix B** for a summary of sediment classifications and observations.

5.3 Summary of Analytical Results

5.3.1 Groundwater Analytical Results

The PFAS groundwater analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, 20 primary groundwater samples (including resampling at MW056 and MW126) collected from 17 locations were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in nine primary groundwater samples collected from five locations
- PFOS+PFHxS and/or PFOA exceeded the adopted drinking water human health screening criteria in four primary groundwater samples collected from two locations
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in eight primary groundwater samples collected from four locations.

Deviations from the historical dataset are provided in **Table 10** and on **Figure F7** in **Appendix A**.

Table 9 Deviations from Historical Groundwater Dataset

Deviation Type	Groundwater sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		July 2023	Previous maximum	July 2023	Previous maximum	July 2023	Previous maximum
First-time detections of PFOS+PFHxS, PFOS and/or PFOA in groundwater	MW126*	There were no first-time detections in the dataset.		There were no first-time detections in the dataset.		0.22	<0.01
New exceedance of the NEMP (HEPA, 2020) drinking water guidelines	MW126*	0.24	0.03	There are no applicable NEMP Human Health Screening Criteria.		There were no new exceedances of the NEMP Human Health Screening Criteria in the dataset.	
	MW056	0.16	0.04				
New exceedance of the NEMP (HEPA, 2020) Freshwater 99% guidelines in groundwater	MW126*	There are no applicable NEMP Ecological Screening Criteria (99%).		There are no applicable NEMP Ecological Screening Criteria (99%).		0.22	<0.01
Legend							
Bold	Bold text indicates existing detection or exceedance of adopted screening criteria						
Blue Shading	Blue shading indicates sampling location with first-time detection of PFOS+PFHxS and/or PFOA						
Yellow Shading	Yellow shading indicates sampling location with new exceedance of NEMP Human Health Screening criteria and/or Ecological Screening criteria						
Notes:	*new exceedance/first time detection reported in July 2023 result. Note that results of resampling in October 2023 were below relevant guidelines at MW126, with PFOS+PFHxS reported at 0.03 µg/L and PFOS reported at 0.01 µg/L.						

5.3.2 Surface Water Analytical Results

The PFAS analytical results for surface water from this sampling event are presented in **Table T6** in **Appendix B**. In summary, 17 primary surface water samples and one wastewater effluent sample were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in nine primary surface water samples and one wastewater effluent sample
- PFOS+PFHxS and/or PFOA exceeded the adopted recreational use human health screening criteria in two primary surface water samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in nine primary surface water samples and one wastewater effluent sample.

Deviations from the historical dataset are provided in **Table 10** and on **Figure F8** in **Appendix A**.

Table 10 Deviations from Historical Dataset - Surface Water

Deviation Type	Surface water sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		July 2023	Previous maximum	July 2023	Previous maximum	July 2023	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in surface water	n/a	There were no first-time detections in the dataset.		There were no first-time detections in the dataset.		There were no first-time detections in the dataset.	
New exceedance of the NEMP (HEPA, 2020) recreational guidelines in surface water	SW002	2.2	1.66	There were no new exceedances of the NEMP Human Health Screening Criteria (Recreational) in the dataset.		There are no applicable NEMP Human Health Screening Criteria (Recreational).	
New exceedance of the NEMP (HEPA, 2020) Freshwater 99% guidelines in surface water	n/a	There are no applicable NEMP Ecological Screening Criteria (99%).		There were no new exceedances of the NEMP Ecological Screening Criteria in the dataset (99%).		There were no new exceedances of the NEMP Ecological Screening Criteria in the dataset (99%).	
Legend							
Blue Shading	Blue shading indicates sampling location with first-time detection of PFOS+PFHxS, PFOS and/or PFOA						
Yellow Shading	Yellow shading indicates sampling location with new exceedance of NEMP Human Health and/or Ecological Screening Criteria						

5.3.3 Sediment Analytical Results

The PFAS sediment analytical results from this sampling event are presented in **Table T7** in **Appendix B**. In summary, 20 primary sediment samples were analysed for PFAS compounds, with concentrations of PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 16 primary samples.

Deviations from the historical dataset are recorded in **Table 11** and graphically on **Figure F9** in **Appendix A**.

Table 11 Deviations from Historical Dataset - Sediment

Deviation Type	Sediment sampling location	PFOS+PFHxS (mg/kg)		PFOA (mg/kg)		PFOS (mg/kg)	
		July 2023	Previous maximum	July 2023	Previous maximum	July 2023	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in sediment	SD563 (new location)	0.0044	n/a	There were no first-time detections in the dataset.		0.0044	n/a
Legend							
Blue Shading	Blue shading indicates sampling location with first-time detection of PFOS+PFHxS, PFOS and/or PFOA						
Note	n/a = not applicable – no historical data available, as location was sampled for the first time.						

5.4 Historical Sampling Data

Historical groundwater, surface water (inclusive of wastewater), and sediment sampling data are presented in **Tables T8**, **T9** and **T10** in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The July 2023 annual sampling event was completed between 17 and 19 July 2023, with resampling of selected locations on 25 October 2023. The findings and the recommended actions are summarised in **Table 12** below.

Table 12 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following were accessed and able to be sampled: • 16 groundwater locations • 17 surface water locations • 1 wastewater effluent location • 20 sediment locations	Nil.
Location unable to be located, inaccessible or dry	A groundwater sample from one location (MW104) was unable to be collected as the location was observed to have insufficient water volume during the sampling event. Groundwater samples from two locations (MW129 and MW132) were not sampled as access was unable to be obtained. Samples from three surface water locations (SW114, SW115 and SW116) were unable to be collected as the locations were dry during sampling.	AECOM will attempt to access and sample locations MW104, MW129, MW132, SW114, SW115 and SW116 during the next scheduled sampling event.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition, with the exception of MW188D which had a damaged monument.	AECOM proposes to repair the monument of MW188D ahead of the next sampling event.
Analytical Results	16 groundwater primary samples (plus an additional 4 from the resampling event), 17 surface water primary samples, 1 wastewater effluent sample and 20 sediment primary samples were analysed.	Locations will be sampled and analysed again during the next scheduled sampling event to continue to monitor concentrations over time.
First-time detections of PFOS+PFHxS, PFOS and/or PFOA	One (MW126) of 16 groundwater locations sampled reported first-time detections of PFOS+PFHxS, PFOS and/or PFOA. One (SD563) of 20 sediment locations sampled reported first-time detections of PFOS+PFHxS, PFOS and/or PFOA. No first-time detections of PFOS+PFHxS, PFOS and/or PFOA were reported in surface water locations sampled.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.

Item	Comment	Recommended Action
New exceedance of adopted human health screening criteria	Two (MW056 and MW126) of 16 groundwater locations sampled reported new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA. One (SW002) of 17 surface water locations sampled reported new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA.	Resampling at MW056 confirmed July 2023 results, exceeding the adopted human health screening criteria for PFOS+PFHxS and/or PFOA. Concentrations reported from resampling at MW126 were below the adopted human health screening criteria for PFOS+PFHxS and/or PFOA. Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.
New exceedance of adopted ecological screening criteria	One (MW126) of 16 groundwater locations sampled reported new exceedances of the adopted ecological screening criteria for PFOS+PFHxS and/or PFOA. No new exceedances of the adopted ecological screening criteria for PFOS+PFHxS and/or PFOA were reported in surface water locations sampled.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.

6.2 Upcoming Sampling Events

The next OMP sampling event is scheduled for January 2024.

6.3 Upcoming Ongoing Monitoring Interpretive Report

The next Ongoing Monitoring Interpretive Report is scheduled to be delivered in Q3 2024, covering data that is collected within the 12-month sampling period between July 2023 and June 2024.

7.0 References

AECOM, 2019. *Detailed Site Investigation – Singleton Military Area – PFAS Investigation*. November 2019.

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National Environment Protection Council (NEPC), 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B1 Guideline on Investigation Levels For Soil and Groundwater.*

NEPC, 2013. *Schedule B2. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B2 Guideline on Site Characterisation*.

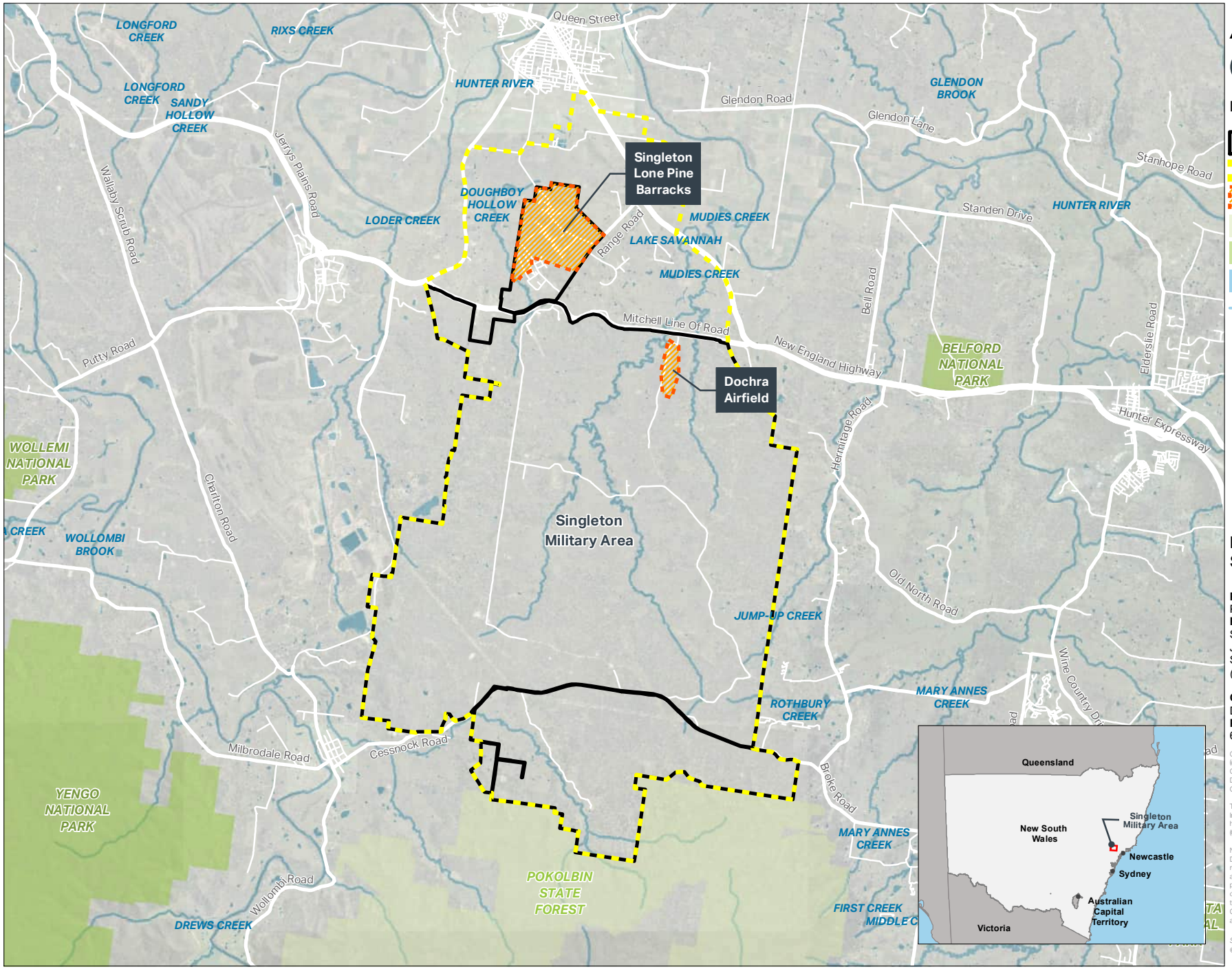
NEPC, 2013. *Schedule B4. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B4 Guideline on Site-Specific Health Risk Assessment Methodology*.

NEPC, 2013. *Schedule B7. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B7 Guideline on Derivation of Health-Based Investigation Levels*.

Standards Australia 1998. AS/NZ 5667:1998 *Water quality – sampling*

Appendix A

Figures



AECOM

N

0 1.5 3 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- State Forest
- NPWS Reserve
- Waterbody
- Watercourse

FIGURE F1:
SITE LAYOUT

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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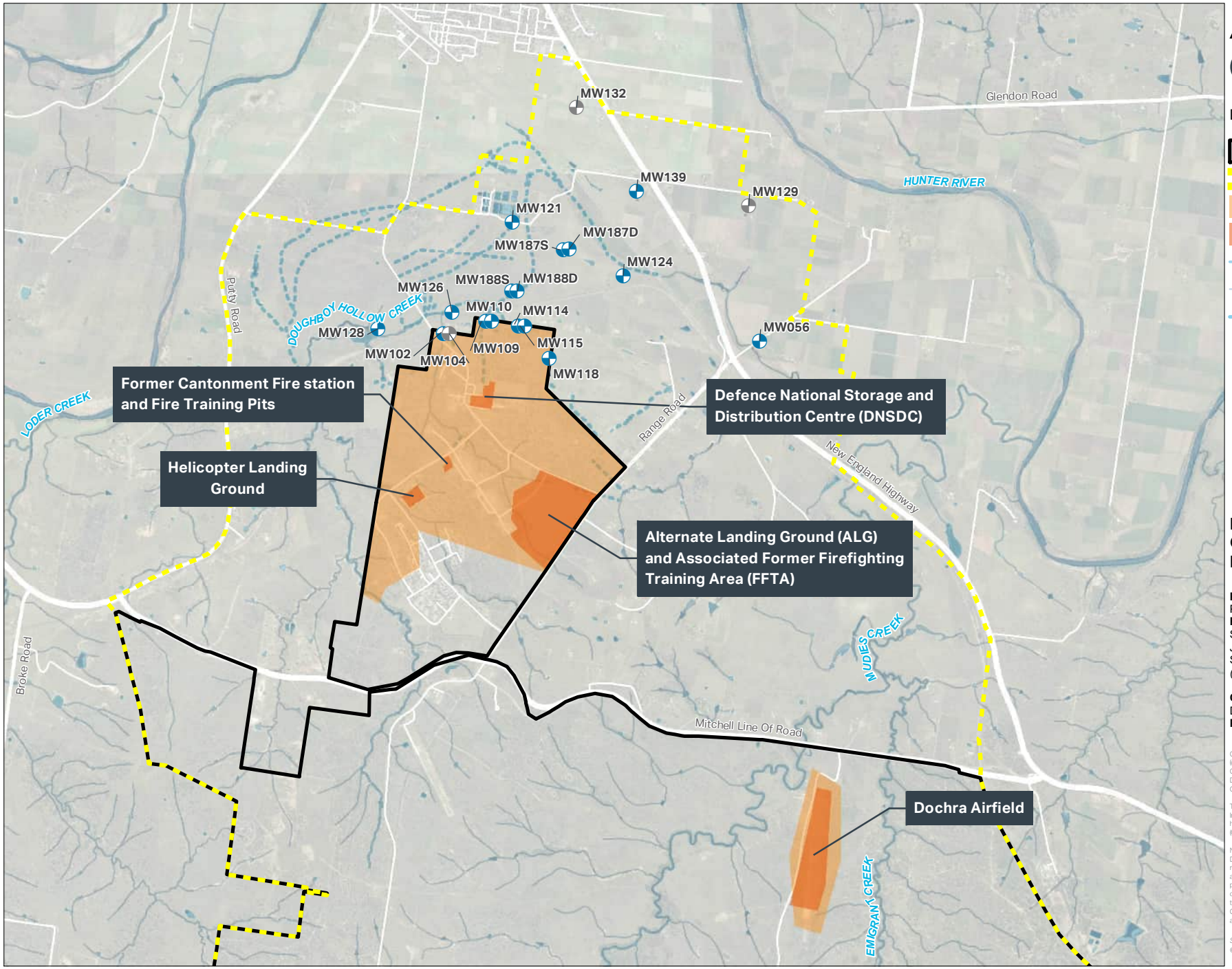


AECOM

N

0 0.5 1 km

Legend

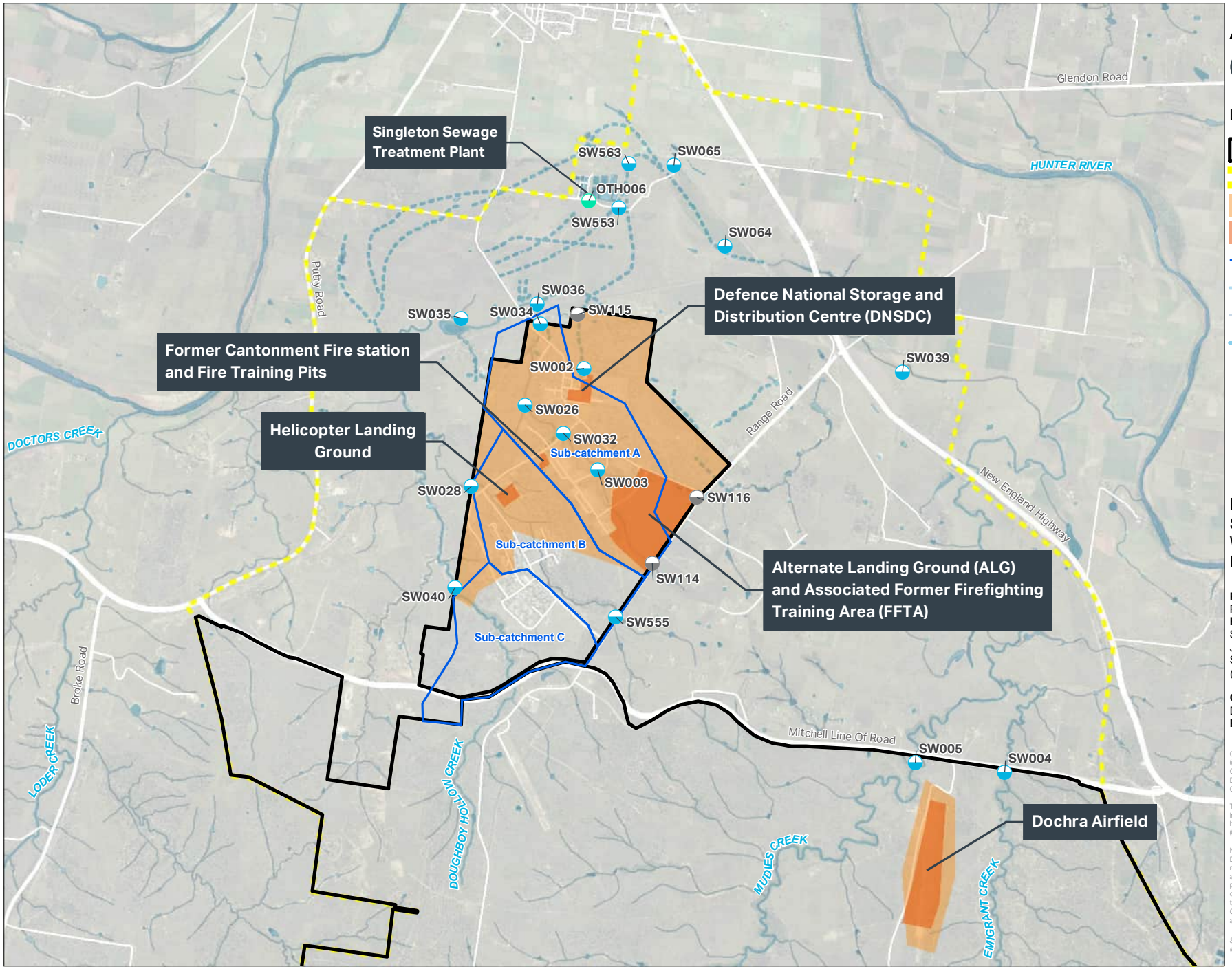
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Groundwater Location (sampled)
- Groundwater Location (not sampled)

FIGURE F2:
GROUNDWATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Surface Water Location (sampled)
- Surface Water Location (not sampled)
- Wastewater Location (sampled)

FIGURE F3:
SURFACE WATER AND WASTEWATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
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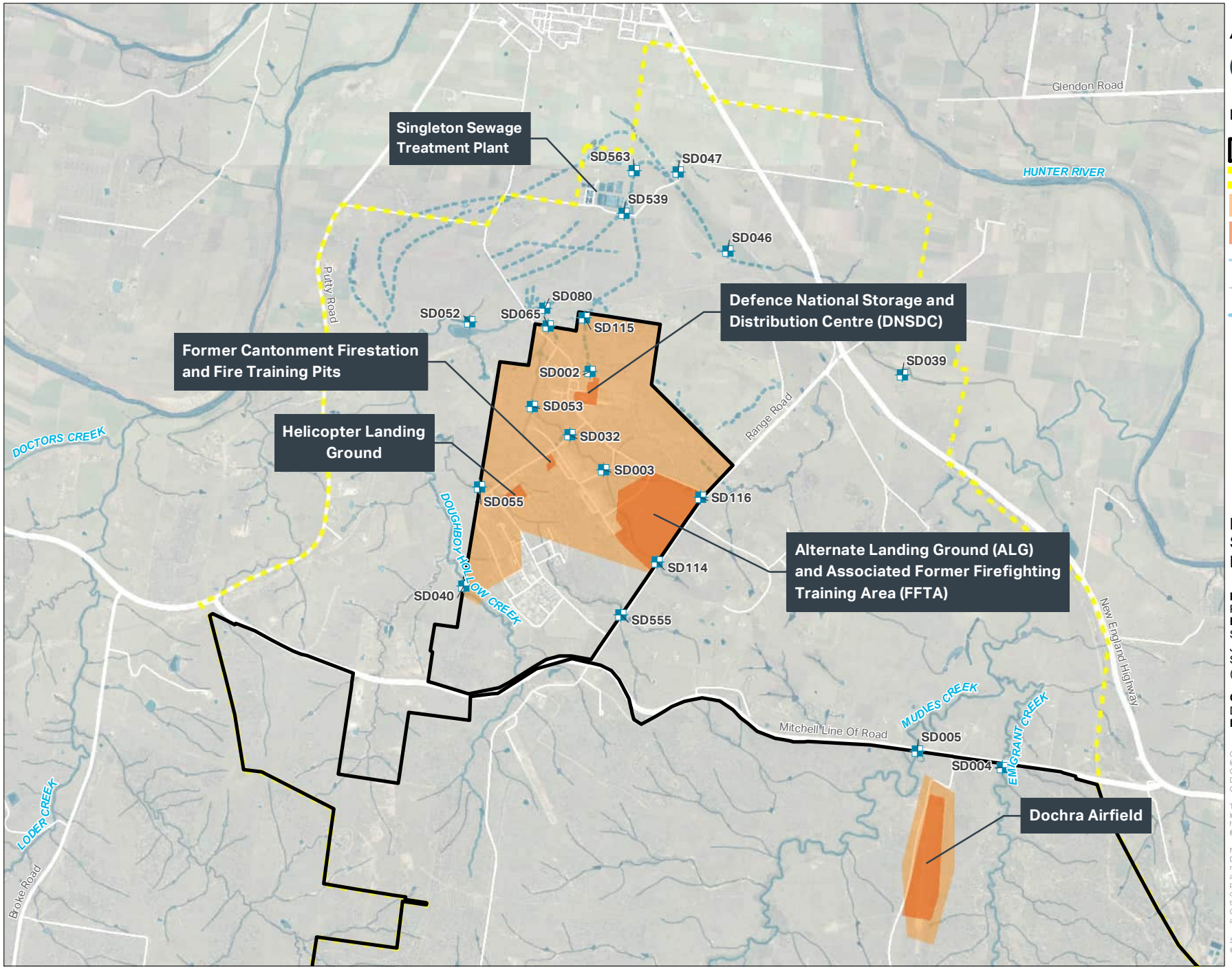

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Sediment Location (sampled)

FIGURE F4:
SEDIMENT SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
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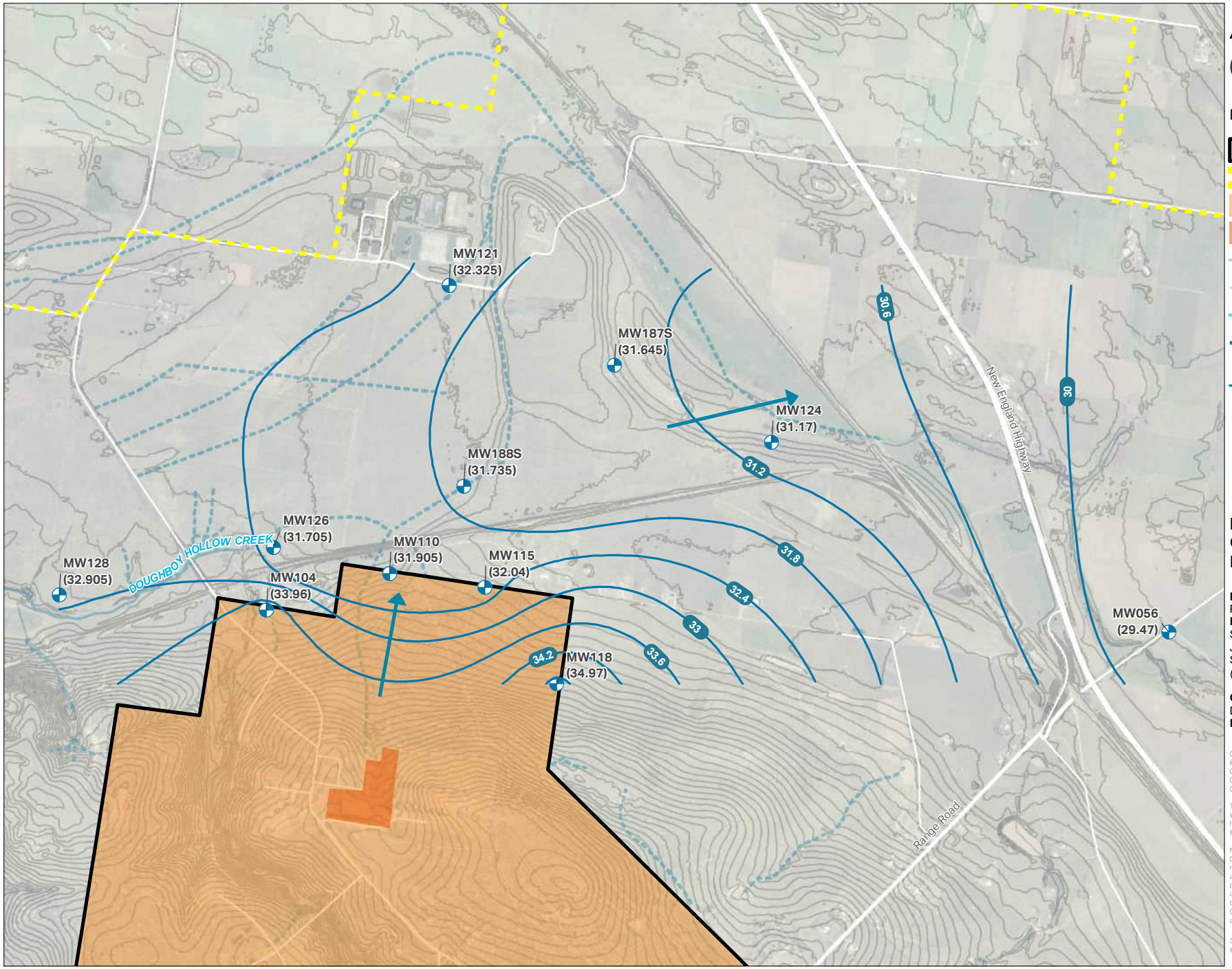

AECOM

N

0 200 400 Meters

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Inferred Groundwater Flow
- Groundwater Elevation Contour (Shallow Wells; mAHD)
- Groundwater Location (gauged)

FIGURE F5:
GROUNDWATER ELEVATION PLAN - SHALLOW

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
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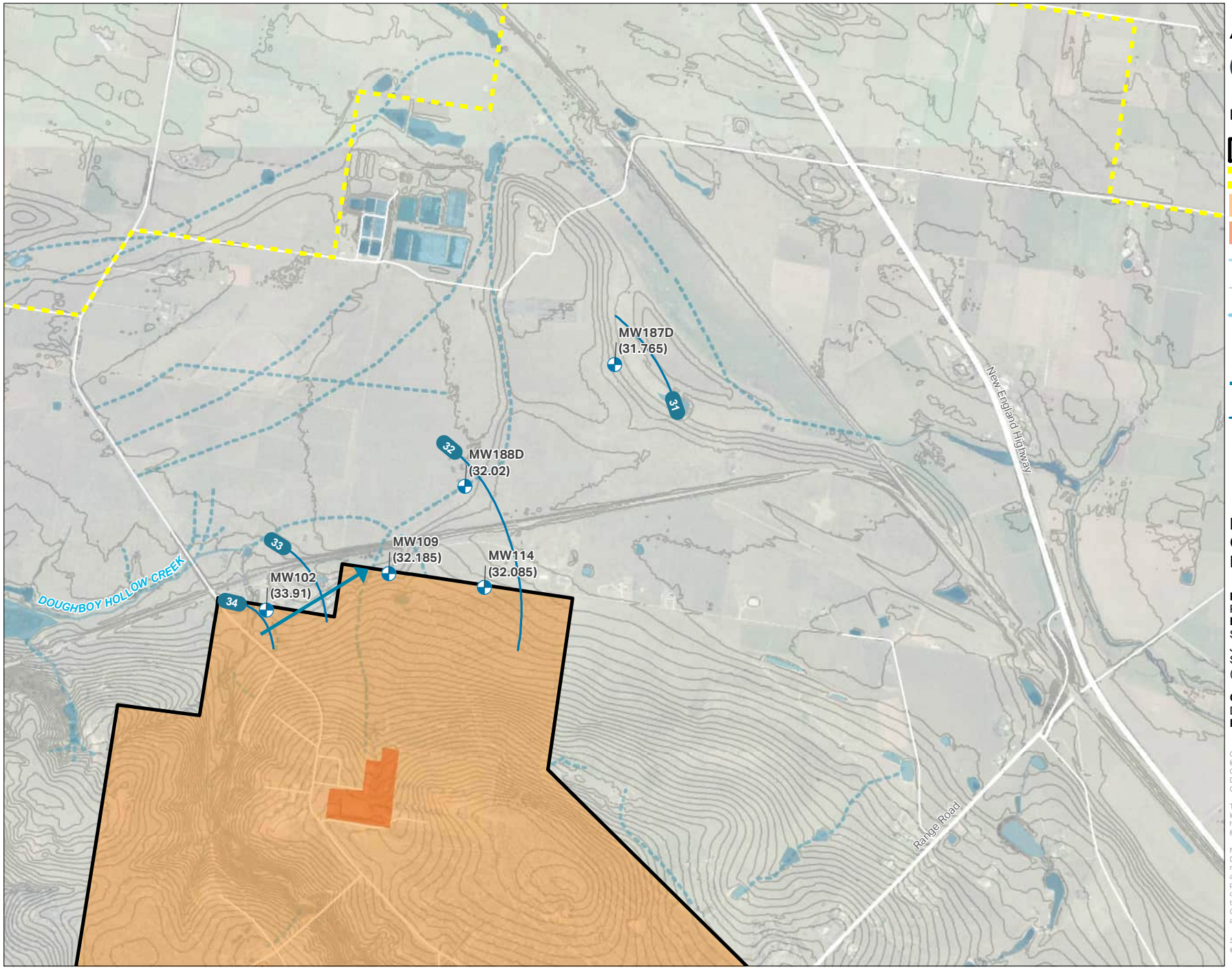


AECOM

N

0 200 400 Meters

Legend

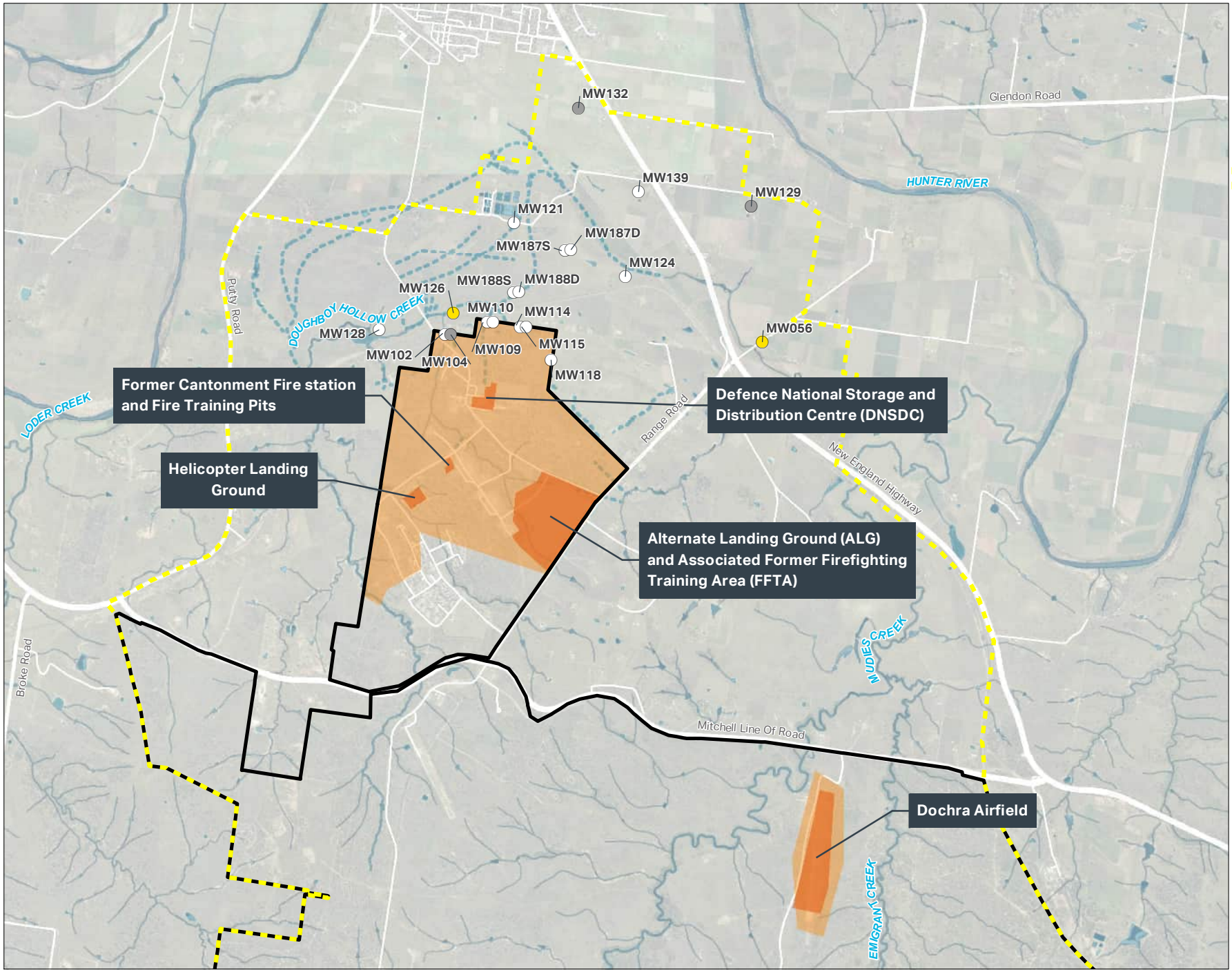
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Groundwater Location (gauged)
- Inferred Groundwater Flow
- Groundwater Elevation Contour (Deep Wells; mAHD)

FIGURE F6:
GROUNDWATER ELEVATION PLAN - DEEP

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

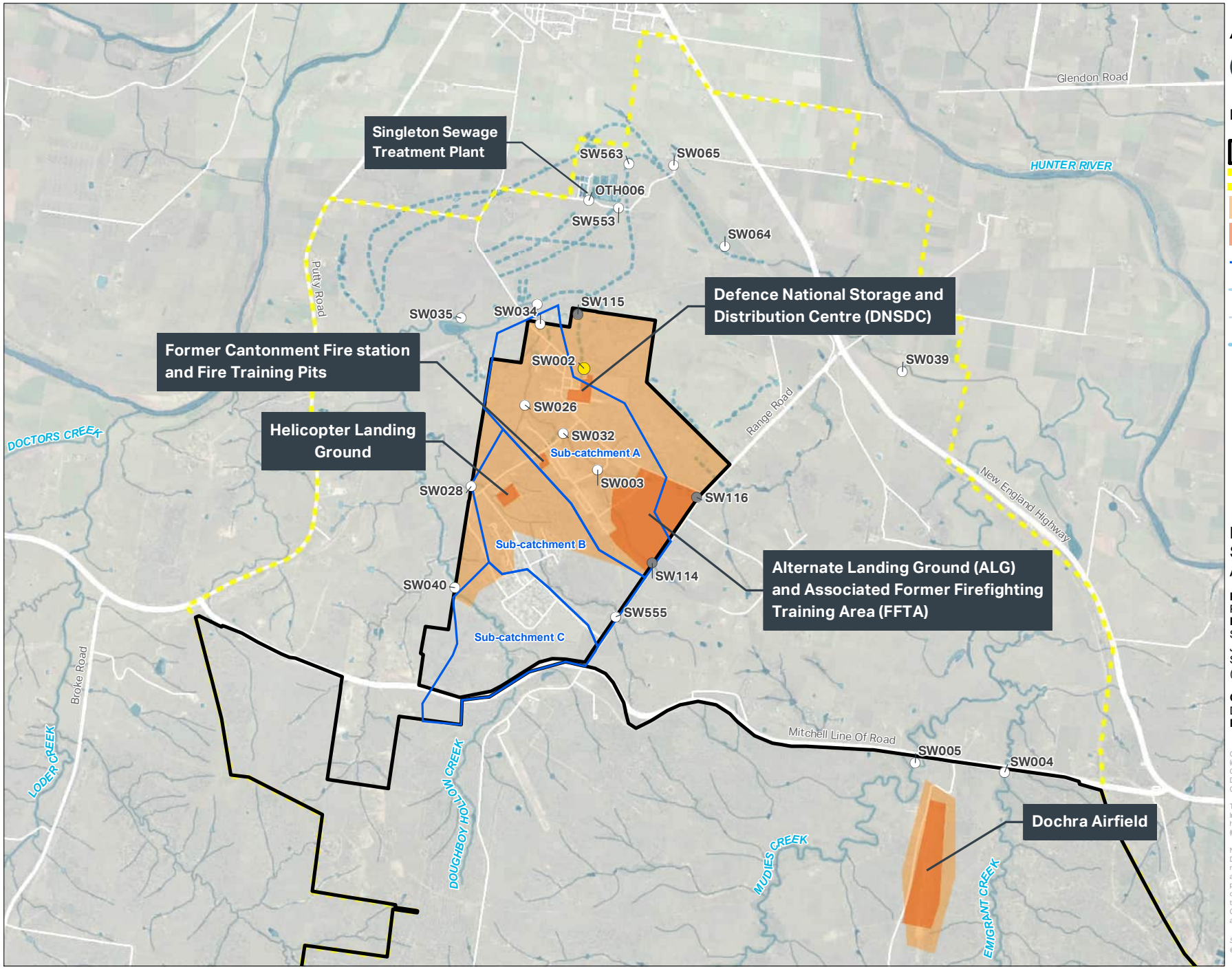
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- New Exceedence of Human Health and/or Ecological Screening Criteria for PFOS, PFOS+PFHxS and/or PFOA
- Location Not Accessed and/or Sampled
- Sampled, No First-Time Detection or New Exceedance

FIGURE F7:
GROUNDWATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

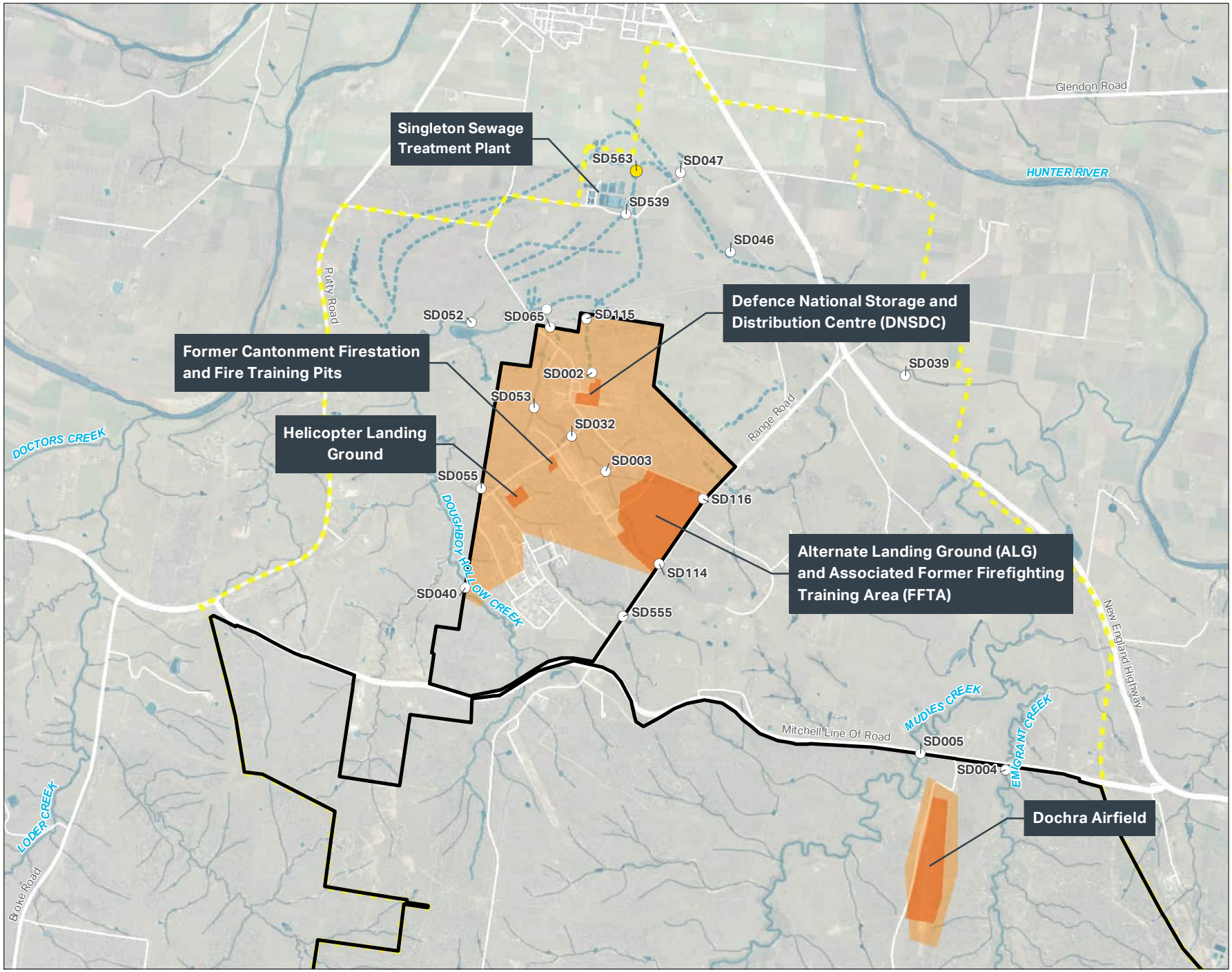
- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage line
- Undefined Drainage Lines
- New Exceedence of Human Health and/or Ecological Screening Criteria for PFOS, PFOS+PFHxS and/or PFOA
- Location not accessed and/or sampled
- Sampled, no first-time detection or new exceedance

FIGURE F8:
SURFACE WATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- New Exceedence of Human Health and/or Ecological Screening Criteria for PFOS, PFOS+PFHxS and/or PFOA
- Location not accessed and/or sampled
- Sampled, no first-time detection or new exceedance

FIGURE F9:
SEDIMENT ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
July 2023
Singleton Lone Pine Barracks
(Site ID 0356)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:

Source:
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Appendix B

Tables

Table T1 - Groundwater Gauging and Observations

Location Code	Alternative Name	Top of Casing (mAHD)	Top Screen (mbTOC)	Bottom Screen (mbTOC)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit/Gauging Comment
MW056	GW12, MW12S	34.71	5.3	8.3	n/a	19/07/2023 9:20	5.240	29.470	8.30	Targeted gauging event visit. Good condition.
MW056	GW12, MW12S	34.71	5.3	8.3	7.3	19/07/2023 13:48	-	-	8.30	Good condition.
MW056	GW12, MW12S	34.71	5.3	8.3	7.3	25/10/2023 11:25	5.475	29.235	8.28	Good condition. Resampling event.
MW102	GW02D	46.82	13.5	16.5	15.7	17/07/2023 11:48	12.915	33.905	16.70	Good condition.
MW102	GW02D	46.82	13.5	16.5	n/a	19/07/2023 8:39	12.910	33.910	-	Targeted gauging event visit. Good condition.
MW104	GW02S	46.72	10	13	-	17/07/2023 11:52	12.760	33.960	12.85	Good condition.
MW104	GW02S	46.72	10	13	n/a	19/07/2023 8:38	12.760	33.960	-	Targeted gauging event visit. Good condition.
MW109	GW03D	45.1	24.5	30	29	17/07/2023 10:53	12.940	32.160	30.00	Good condition.
MW109	GW03D	45.1	24.5	30	n/a	19/07/2023 8:33	12.915	32.185	-	Targeted gauging event visit. Good condition.
MW110	GW03S	45.4	12.4	14.9	13.7	17/07/2023 11:04	13.515	31.885	14.73	Good condition.
MW110	GW03S	45.4	12.4	14.9	n/a	19/07/2023 8:34	13.495	31.905	-	Targeted gauging event visit. Good condition.
MW114	GW04D	45.9	24.3	30.3	29.3	17/07/2023 10:36	13.850	32.050	30.46	Good condition.
MW114	GW04D	45.9	24.3	30.3	n/a	19/07/2023 8:28	13.815	32.085	-	Targeted gauging event visit. Good condition.
MW115	GW04S	45.86	11.8	14.8	13.8	17/07/2023 10:28	13.860	32.000	14.88	Good condition.
MW115	GW04S	45.86	11.8	14.8	n/a	19/07/2023 8:27	13.820	32.040	-	Targeted gauging event visit. Good condition.
MW118	GW05S	52.72	unknown	unknown	25	17/07/2023 9:57	17.378	35.342	26.08	Good condition.
MW118	GW05S	52.72	0	0	n/a	19/07/2023 8:20	17.750	34.970	-	Targeted gauging event visit. Good condition.
MW121	GW06/GW06S	39.82	9.5	12.5	n/a	19/07/2023 13:02	7.495	32.325	12.30	Targeted gauging event visit and sampling. Good condition.
MW124	GW07/GW07S	38.68	9.4	13.8	n/a	19/07/2023 10:58	7.510	31.170	13.70	Targeted gauging event visit and sampling. Good condition.
MW126	GW08S	42.78	10.5	13.5	11	18/07/2023 11:57	11.075	31.705	12.10	Good condition.
MW126	GW08S	42.78	10.5	13.5	11	25/10/2023 8:50	10.920	31.860	12.10	Good condition. Resampling event.
MW128	GW09S	44.08	9.2	12.2	12.6	18/07/2023 12:44	11.175	32.905	13.65	Good condition.
MW129	GW10S	37.95	9	12	n/a	17/07/2023 9:55	-	-	-	Not sampled - residential appointment not confirmed.
MW132	RESI_GW011	unknown	unknown	unknown	n/a	17/07/2023 9:50	-	-	-	Not sampled - residential appointment not confirmed.
MW139	RESI_GW013/RESI_GW13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tap, not monitoring well.
MW187D	MW09D	40.23	18.7	24.7	n/a	19/07/2023 10:11	8.465	31.765	25.62	Targeted gauging event visit and sampling. Good condition.
MW187S	MW09S	40.4	7	10	n/a	19/07/2023 10:05	8.755	31.645	10.88	Targeted gauging event visit and sampling. Good condition.
MW188D	MW10D	41.25	25	31	n/a	19/07/2023 15:34	9.230	32.020	28.17	Targeted gauging event visit and sampling. Poor condition. Monument damaged, snapped from base of monument.
MW188S	MW10S	41.12	8.9	11.9	n/a	19/07/2023 11:25	9.385	31.735	12.03	Targeted gauging event visit and sampling. Good condition.

Notes

mbTOC	meters below Top of Casing
mAHD	meters Australian Height Datum
n/a	Not applicable
-	Not measured

Table T2 - Groundwater Quality Parameters and Observations

				Water Quality Parameters					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
				mg/L	°C	µS/cm	pH_Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Sample Comments**						
MW056	GW12, MW12S	19 Jul 2023	Clear, low turbidity, no odour, no sheen.	7.97	19.0	3411.0	7.23	63.4	269.2
MW056	GW12, MW12S	25 Oct 2023	Clear, no turbidity, no odour or sheen. Sample collected with hydrasleeve. Resampling visit.	4.16	23.5	3410.0	7.13	64.7	270.5
MW056	GW12, MW12S	25 Oct 2023	Clear, no turbidity, no odour or sheen. Sample collected with peristaltic pump. Resampling visit.	0.99	20.1	3380.0	6.99	20.0	225.8
MW102	GW02D	17 Jul 2023	Clear, low turbidity, no odour, no sheen.	1.03	19.2	19965.0	6.72	-74.4	131.4
MW104	GW02S	17 Jul 2023	Insufficient water to sample - no water in Hydrasleeve.	n/a	n/a	n/a	n/a	n/a	n/a
MW109	GW03D	17 Jul 2023	Clear, no turbidity, no odour, no sheen.	8.38	21.0	16320.0	6.91	-112.3	93.5
MW110	GW03S	17 Jul 2023	Light yellow, medium turbidity, no odour, no sheen.	3.05	20.3	10564.0	7.19	-33.6	172.2
MW114	GW04D	17 Jul 2023	Clear, medium turbidity, no odour, no sheen.	1.17	20.4	5947.0	6.98	-150.1	55.7
MW115	GW04S	17 Jul 2023	Clear, low turbidity, no odour, no sheen.	4.29	20.5	7839.0	6.63	52.9	258.7
MW118	GW05S	17 Jul 2023	Light grey, medium turbidity, no odour, no sheen.	5.23	19.4	15241.0	6.28	64.7	270.5
MW121	GW06/GW06S	19 Jul 2023	Yellow, medium turbidity, no odour, no sheen.	2.21	18.2	754.0	7.09	-116.8	89.0
MW124	GW07/GW07S	19 Jul 2023	Light grey, medium turbidity, no odour, no sheen.	2.33	19.0	7789.0	6.88	-110.2	95.6
MW126	GW08S	18 Jul 2023	Light yellow, low turbidity, no odour, no sheen.	7.00	18.2	1086.0	6.47	130.8	336.6
MW126	GW08S	25 Oct 2023	Brown, high turbidity, no odour or sheen. Sample collected with hydrasleeve. Resampling visit.	4.58	23.2	4983.0	6.62	21.6	227.4
MW126	GW08S	25 Oct 2023	Brown, moderate turbidity, no odour or staining. Sample collected with peristaltic pump. Resampling visit.	4.98	23.9	5397.0	7.00	59.4	265.2
MW128	GW09S	18 Jul 2023	Light yellow, low turbidity, no odour, no sheen.	5.37	20.2	3094.0	7.20	24.9	230.7
MW129	GW10S	17 Jul 2023	Not sampled - residential appointment not confirmed.	n/a	n/a	n/a	n/a	n/a	n/a
MW132	RESI_GW011	17 Jul 2023	Not sampled - residential appointment not confirmed.	n/a	n/a	n/a	n/a	n/a	n/a
MW139	RESI_GW013/RESI_GW13	18 Jul 2023	Clear, low turbidity, no odour, no sheen. Sampled from tap connected to bore.	10.37	12.9	2914.0	6.59	138.2	344.0
MW187D	MW09D	19 Jul 2023	Clear, low turbidity, organic odour, no sheen.	2.16	16.4	11685.0	7.05	116.8	322.6
MW187S	MW09S	19 Jul 2023	Clear, low turbidity, no odour, no sheen.	7.08	16.1	14855.0	6.75	131.7	337.5
MW188D	MW10D	19 Jul 2023	Clear, medium turbidity, no odour, no sheen.	0.94	19.4	8801.0	8.78	-182.5	23.3
MW188S	MW10S	19 Jul 2023	Clear, no turbidity, no odour, no sheen.	4.19	17.9	10215.0	7.17	-4.6	201.2

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts
Corrected field Redox measurement Eh = Er + 205.8	
n/a	not applicable

Table T3 - Surface Water Quality Parameters and Observations

						Water Quality Parameters					
						Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
						mg/L	°C	µS/cm	pH_Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Location Comments**	**Sample Depth (m)**	**Sample Comments**						
SW002	SW002	17 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Light yellow, low turbidity, no odour, biosheen.	2.45	16.0	2128.0	6.85	-34.9	170.9
SW003	SW003	17 Jul 2023	Creek. Waterbody approx. 4 m wide, 0.2 m deep, with small pools of water. Water flow not observed.	0.1 - 0.2	Light yellow, medium turbidity, no odour, no sheen.	12.08	15.1	514.0	7.59	60.0	265.8
SW004	SW004	19 Jul 2023	Dam. Waterbody approx. 5 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Yellow, medium turbidity, no odour, no sheen.	5.19	18.9	283.6	7.33	75.2	281.0
SW005	SW005	19 Jul 2023	Creek. Waterbody approx. 1 m wide, 0.1 m deep. Water flow not observed.	0.05 - 0.1	Light yellow, low turbidity, no odour, no sheen.	5.52	13.4	4812.0	7.09	-29.4	176.4
SW026	SMA13_SW	17 Jul 2023	Creek. Waterbody approx. 3 m wide, 0.4 m deep. Water flow not observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	8.02	16.9	298.2	7.47	146.3	352.1
SW028	SMA7_SW	18 Jul 2023	Creek. Waterbody approx. 1 m wide, 1 m deep. Water flow not observed.	0.4 - 0.5	Clear, low turbidity, no odour, no sheen.	6.79	12.1	291.6	6.54	132.9	338.7
SW032	SW032	17 Jul 2023	Creek. Waterbody approx. 5 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Clear, no turbidity, no odour, biosheen.	8.12	14.9	462.5	7.11	102.0	307.8
SW034	SMA8_SW	17 Jul 2023	Creek. Waterbody approx. 2 m wide, 0.3 m deep. Water flow observed.	0.1 - 0.2	Light yellow, medium turbidity, no odour, no sheen.	6.89	15.6	2302.0	7.33	20.3	226.1
SW035	RESI_SW035	18 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Water flow not observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	4.61	20.5	1142.0	7.21	32.9	238.7
SW036	RESI_SW036	18 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow not observed.	0.3 - 0.4	Yellow, medium turbidity, no odour, no sheen.	4.82	18.5	311.5	6.63	115.2	321.0
SW039	RESI_SW039	18 Jul 2023	Dam. Waterbody approx. 10 m wide, 1 m deep. Water flow not observed.	0.4 - 0.5	Light yellow, low turbidity, no odour, no sheen.	5.80	12.5	713.0	7.10	127.5	333.3
SW040	SW040	18 Jul 2023	Creek. Waterbody approx. 1 m wide, 1 m deep. Water flow observed.	0.4 - 0.5	Light yellow, low turbidity, no odour, biosheen.	9.12	17.5	2615.0	7.25	132.9	338.7
SW064	RESI_SW041	19 Jul 2023	Dam. Waterbody approx. 15 m wide, 0.2 m deep. Water flow not observed.	0.05 - 0.1	Yellow, medium turbidity, no odour, no sheen.	4.10	15.5	1795.0	7.78	78.6	284.4
SW065	RESI_SW042	19 Jul 2023	Creek. Waterbody approx. 3 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow observed.	0.2 - 0.3	Light yellow, low turbidity, no odour, no sheen.	7.51	16.8	2956.0	7.64	121.2	327.0
SW114		17 Jul 2023	Drain. Approximately 3 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW115		17 Jul 2023	Dam. Approximtely 5 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW116		17 Jul 2023	Drain. Approximately 2 m wide. Location dry, not sampled.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW553		19 Jul 2023	Drain. Waterbody approx. 4 m wide, 0.1 m deep. Water flow not observed.	0 - 0.1	Green, medium turbidity, organic odour, biosheen.	6.63	17.8	1258.0	7.13	12.4	218.2
SW555		17 Jul 2023	Creek. Waterbody approx. 2 m wide, 0.3 m deep. Water flow not observed.	0.1 - 0.2	Clear, no turbidity, no odour, biosheen.	5.34	14.3	1655.0	7.16	156.7	362.5
SW563		19 Jul 2023	Dam. Waterbody approx. 20 m wide, 0.5 m deep. Vegetation surrounding banks. Water flow not observed.	0.3 - 0.4	Clear, low turbidity, no odour, no sheen.	9.89	17.5	584.0	7.98	2.8	208.6
OTH006		19 Jul 2023	Effluent wastewater pit. Approximately 1 m wide, 4 m deep. Water approximately 0.25 m deep. Water flow observed.	n/a	Clear, low turbidity, organic odour, no sheen. Geochemical parameters not required.	n/a	n/a	n/a	n/a	n/a	n/a

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts
Corrected field Redox measurement	Eh = Er + 205.8
n/a	not applicable

Table T4 - Sediment Observations

Location Code	Location Alt. Name	Date	Sample Depth (m)	Sample Comments
SD002	SD002	17 Jul 2023	0 - 0.1	Silty CLAY: light brown, fine grain sand, moderate plasticity, some organic inclusions (rootlets). No odour or staining.
SD003	SD003	17 Jul 2023	0 - 0.1	Silty CLAY: brown/grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD004		19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD005		19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD032	SD032	17 Jul 2023	0 - 0.1	Sandy CLAY: brown sands, grey clay, sand coarse, clay medium plasticity. No odour or staining.
SD039	RESI_SD039	18 Jul 2023	0 - 0.2	CLAY: brown/grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD040	SD040	18 Jul 2023	0 - 0.2	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD046	RESI_SD041	19 Jul 2023	0 - 0.1	CLAY: brown, saturated, medium plasticity. No odour or staining.
SD047	RESI_SD042	19 Jul 2023	0.1 - 0.2	Sandy GRAVEL with trace clay: brown, gravel angular to sub-angular up to 5mm, sands course, clay saturated, medium plasticity. No odour or staining.
SD052	RESI_SD035	18 Jul 2023	0.1 - 0.2	CLAY: black, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD053	SMA13_SD	17 Jul 2023	0 - 0.2	Silty CLAY: brown, medium plasticity. Organic odour, no staining.
SD055	SMA7_SD	18 Jul 2023	0 - 0.1	CLAY: grey, saturated, medium plasticity. No odour or staining.
SD065	SMA8_SD	17 Jul 2023	0 - 0.2	SAND: brown/yellow, medium to course grain, organic inclusions (rootlets <20%). No odour or staining.
SD080	RESI_SD013	18 Jul 2023	0 - 0.1	Silty CLAY: brown, moist, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD114		17 Jul 2023	0 - 0.1	Silty CLAY: brown, dry, high plasticity. No odour or staining.
SD115		17 Jul 2023	0 - 0.1	Silty CLAY: brown, medium plasticity, organic inclusions (rootlets 15%). No odour or staining.
SD116		17 Jul 2023	0 - 0.1	Silty CLAY: brown colour, dry, friable. No odour or staining.
SD539		19 Jul 2023	0 - 0.2	Silty CLAY: brown, saturated, organic inclusions (rootlets). No odour or staining.
SD555		17 Jul 2023	0 - 0.1	Silty CLAY: light grey, medium plasticity, organic inclusions (rootlets). No odour or staining.
SD563		19 Jul 2023	0.1 - 0.3	Silty CLAY: orange clay, brown sand, clay medium plasticity, sand medium to course grain. No odour or staining.

Table T5 - Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.01	0.01	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.02	0.05
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																																
MW056	19 Jul 2023	0356_MW056_230719	Normal	ES2324262		<0.01	*0.12*	0.04	**0.16**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251125	Normal	ES2336797		<0.01	*0.09*	0.03	**0.12**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251200	Normal	ES2336797		<0.01	*0.06*	0.04	**0.10**	0.10	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_QC101_231025	Field_D	ES2336797		<0.01	*0.10*	0.03	**0.13**	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	17 Jul 2023	0356_MW102_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	17 Jul 2023	0356_MW109_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	17 Jul 2023	0356_MW110_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	17 Jul 2023	0356_MW114_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	17 Jul 2023	0356_MW115_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_MW118_230717	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC100_230717	Field_D	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC200_230717	Interlab_D	328563		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	19 Jul 2023	0356_MW121_230719	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Jul 2023	0356_MW124_230719	Normal	ES2324262		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	18 Jul 2023	0356_MW126_230718	Normal	ES2324262		<0.01	*0.22*	0.02	**0.24**	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310250850	Normal	ES2336799		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310251035	Normal	ES2336799		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_QC100_231025	Field_D	ES2336799		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	18 Jul 2023	0356_MW128_230718	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Jul 2023	0356_MW139_230718	Normal	ES2324262		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	19 Jul 2023	0356_MW187D_230719	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	19 Jul 2023	0356_MW187S_230719	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	19 Jul 2023	0356_MW188D_230719	Normal	ES2324262		<0.01	*0.03*	<0.01	0.03	0.19	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	19 Jul 2023	0356_MW188S_230719	Normal	ES2324262		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first-time detection above LOR
	Denotes new exceedence of human health and/or ecological screening criteria

Table T6 - Surface Water Analytical Results

							PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
							Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR							0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.01	0.01	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.02	0.05
PFAS NEMP 2020 Freshwater 99%							*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																																
OTH006	19 Jul 2023	0356_OTH006_230719	Normal	ES2324262	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jul 2023	0356_SW002_230717	Normal	ES2324262	0.07	*1.00*	1.20	**2.20**	2.61	0.03	0.07	0.03	<0.02	<0.1	0.03	0.15	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC102_230717	Field_D	ES2324262	<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC202_230717	Interlab_D	328563	<0.01	*0.01*	0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW003	17 Jul 2023	0356_SW003_230717	Normal	ES2324262	<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jul 2023	0356_SW004_230719	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	19 Jul 2023	0356_SW005_230719	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jul 2023	0356_SW026_230717	Normal	ES2324262	<0.01	*0.33*	0.16	0.49	0.49	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC103_230718	Field_D	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC203_230718	Interlab_D	328563	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	18 Jul 2023	0356_SW028_230718	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jul 2023	0356_SW032_230717	Normal	ES2324262	0.04	*2.02*	1.01	**3.03**	3.38	0.05	0.07	0.04	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jul 2023	0356_SW034_230717	Normal	ES2324262	0.02	*0.54*	0.39	0.93	1.06	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jul 2023	0356_SW035_230718	Normal	ES2324262	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jul 2023	0356_SW036_230718	Normal	ES2324262	0.02	*0.58*	0.37	0.95	1.11	0.03	0.02	<0.02	<0.02	<0.1	0.03	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jul 2023	0356_SW039_230718	Normal	ES2324262	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	18 Jul 2023	0356_SW040_230718	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	19 Jul 2023	0356_SW064_230719	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC105_230719	Field_D	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC205_230719	Interlab_D	328563-A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	19 Jul 2023	0356_SW065_230719	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Jul 2023	0356_SW553_230719	Normal	ES2324262	0.01	*0.22*	0.27	0.49	0.56	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	17 Jul 2023	0356_SW555_230717	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	19 Jul 2023	0356_SW563_230719	Normal	ES2324262	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR
	Denotes new exceedence of human health or ecological screening criteria

Table T7 - Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									PFAS - (n:2) Fluorotelomer Sulfonic Acids				
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0002	0.0002	0.0002
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																									
SD002	17 Jul 2023	0356_SD002_230717	Normal	ES2324262		<0.0002	0.0013	0.0003	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD003	17 Jul 2023	0356_QC101_230717	Field_D	ES2324262		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	328563		<0.0001	0.0032	0.0002	0.0034	0.0034	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0002	<0.0005	<0.005	<0.002	<0.002	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	<0.002
SD003	17 Jul 2023	0356_SD003_230717	Normal	ES2324262		<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD004	19 Jul 2023	0356_SD004_230719	Normal	ES2324262		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD005	19 Jul 2023	0356_SD005_230719	Normal	ES2324262		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD032	17 Jul 2023	0356_SD032_230717	Normal	ES2324262		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD039	18 Jul 2023	0356_SD039_230718	Normal	ES2324262		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD040	18 Jul 2023	0356_SD040_230718	Normal	ES2324262		<0.0002	<0.0002	<0.0002	<0.0002	0.0020	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD046	19 Jul 2023	0356_SD046_230719	Normal	ES2324262		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD047	19 Jul 2023	0356_SD047_230719	Normal	ES2324262		<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD052	18 Jul 2023	0356_SD052_230718	Normal	ES2324262		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD053	17 Jul 2023	0356_SD053_230717	Normal	ES2324262		<0.0002	0.0017	<0.0002	0.0017	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD055	18 Jul 2023	0356_QC104_230718	Field_D	ES2324262		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	328563		<0.0001	0.0009	<0.0001	0.0009	0.0009	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	<0.001
SD055	18 Jul 2023	0356_SD055_230718	Normal	ES2324262		<0.0002	0.0009	<0.0002	0.0009	0.0013	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD065	17 Jul 2023	0356_SD065_230717	Normal	ES2324262		<0.0002	0.0005	<0.0002	0.0005	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD080	18 Jul 2023	0356_SD080_230718	Normal	ES2324262		<0.0002	0.0235	0.0018	0.0253	0.0253	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD114	17 Jul 2023	0356_SD114_230717	Normal	ES2324262		<0.0002	0.0011	<0.0002	0.0011	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD115	17 Jul 2023	0356_SD115_230717	Normal	ES2324262		<0.0002	0.0226	0.0013	0.0239	0.0242	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD116	17 Jul 2023	0356_SD116_230717	Normal	ES2324262		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD539	19 Jul 2023	0356_SD539_230719	Normal	ES2324262		<0.0002	0.0052	0.0002	0.0054	0.0054	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD555	17 Jul 2023	0356_SD555_230717	Normal	ES2324262		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
SD563	19 Jul 2023	0356_SD563_230719	Normal	ES2324262		<0.0002	0.0044	<0.0002	0.0044	0.0044	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR

					PFAS - Perfluoroalkyl Sulfonamides					
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**						
SD002	17 Jul 2023	0356_SD002_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	328563	<0.005	<0.0002	<0.01	<0.001	<0.0004	<0.005
SD003	17 Jul 2023	0356_SD003_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	18 Jul 2023	0356_SD039_230718	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	328563	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	18 Jul 2023	0356_SD055_230718	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jul 2023	0356_SD065_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jul 2023	0356_SD080_230718	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	ES2324262	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR

Table T8 - Historical Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																			
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																					
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
MW008	15 May 2019	0356_CNN0018_GW08_190515	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW008	21 Jul 2022	0356_MW008_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW011	05 Oct 2018	CNN0018_GW02_181005	Normal	NSW_0356_PFAS		<0.05	*0.12*	0.3	**0.42**	-	<0.05	0.08	<0.05	<0.05	<0.2	<0.05	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05
MW011	28 Feb 2019	0356_CNN0018_GW02_190228	Normal	NSW_0356_PFAS		0.004	*0.029*	0.054	**0.083**	0.176	0.019	0.008	0.002	<0.002	<0.01	0.008	0.035	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.014	<0.005	<0.005
MW011	15 May 2019	0356_CNN0018_GW02_190515	Normal	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW011	15 May 2019	0356_QC145_GW_190515	Field_D	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW011	15 May 2019	0356_QC245_GW_190515	Field_D	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW011	21 Jul 2022	0356_MW011_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.04	0.07	<0.02	<0.02	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW012	04 Oct 2018	GW_QC103_181004	Field_D	NSW_0356_PFAS		**2.91**	*89.4*	38.8	**128.2**	-	3.83	3.59	2.36	<0.02	<0.1	1.77	9.43	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05
MW012	05 Oct 2018	CNN0018_GW03_181005	Normal	NSW_0356_PFAS		0.49	*14.1*	4.77	**18.87**	-	0.47	0.55	0.49	<0.02	<0.1	0.17	1.24	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW012	05 Oct 2018	0356_GW_QC203_181005	Interlab_D	NSW_0356_PFAS		**2.4**	*77*	36	**110**	140	3.9	4.1	2.6	<0.02	1.1	1.7	9.1	1.2	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	0.08	<0.01	<0.01
MW012	28 Feb 2019	0356_CNN0018_GW03_190228	Normal	NSW_0356_PFAS		**2.48**	*114*	31.1	**145**	167	2.45	3.59	4.21	0.034	0.74	1.14	6.05	0.939	<0.002	0.012	<0.002	<0.002	<0.002	<0.005	<0.005	0.116	0.054	<0.005
MW012	15 May 2019	0356_CNN0018_GW03_190515	Normal	NSW_0356_PFAS		**2.71**	*105*	37.2	**142**	168	3.01	5.68	2.48	<0.02	0.8	1.42	8.02	1.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05
MW048	03 Oct 2018	0356_CNN0039_GW01_181003	Normal	NSW_0356_PFAS		0.03	*0.03*	2.17	**2.2**	-	0.17	0.24	<0.02	<0.02	<0.1	0.04	0.21	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW048	27 Feb 2019	0356_CNN0039_GW01_190227	Normal	NSW_0356_PFAS		0.042	*0.03*	2.68	**2.71**	3.96	0.293	0.461	0.017	<0.002	<0.01	0.067	0.299	0.051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.016	<0.005	<0.005
MW048	10 May 2019	0356_CNN0039_GW01_190510	Normal	NSW_0356_PFAS		0.03	*0.02*	2.26	**2.28**	2.88	0.16	0.24	<0.02	<0.02	<0.1	<0.02	0.15	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW048	21 Jul 2022	0356_MW048_220721	Normal	NSW_0356_PFASOMP_22		0.05	*0.02*	2.26	**2.28**	3.14	0.15	0.31	<0.02	<0.02	<0.1	0.04	0.27	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW048	21 Jul 2022	0356_QC103_220721	Field_D	NSW_0356_PFASOMP_22		0.05	*0.02*	2.24	**2.26**	3.15	0.19	0.31	<0.02	<0.02	<0.1	0.06	0.24	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW048	21 Jul 2022	0356_QC203_220721	Interlab_D	NSW_0356_PFASOMP_22		0.06	*0.02*	2.6	**2.7**	3.6	0.21	0.31	0.02	<0.02	0.04	0.05	0.23	0.05	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
MW049	03 Oct 2018	0356_CNN0039_GW02_181003	Normal	NSW_0356_PFAS		0.06	*1.12*	1.26	**2.38**	-	0.07	0.09	0.1	<0.02	<0.1	0.03	0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW049	27 Feb 2019	0356_CNN0039_GW02_190227	Normal	NSW_0356_PFAS		0.169	*6.45*	3.97	**10.4**	11.9	0.204	0.316	0.339	<0.002	<0.01	0.057	0.36	0.048	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.03	<0.005	<0.005
MW049	10 May 2019	0356_CNN0039_GW02_190510	Normal	NSW_0356_PFAS		0.09	*2.13*	3.16	**5.29**	6.21	0.15	0.26	0.14	<0.02	<0.1	<0.02	0.25	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW050	07 May 2019	0356_CNN0039_GW03_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW050	21 Jul 2022	0356_MW050_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW052	10 May 2019	0356_CNN0039_GW05_190510	Normal	NSW_0356_PFAS		0.03	*0.42*	0.53	**0.95**	1.09	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW052	21 Jul 2022	0356_MW052_220721	Normal	NSW_0356_PFASOMP_22		0.02	*0.38*	0.28	**0.66**	0.79	<0.02	0.02	<0.02	<0.02	<0.1	0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	08 May 2019	0356_GW12_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	30 May 2019	0356_GW12_190530	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	19 Jul 2023	0356_MW056_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.12*	0.04	**0.16**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	25 Oct 2023	0356_MW056_2310251125	Normal	NSW_0356_PFASOMP_23		<0.01	*0.09*	0.03	**0.12**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	25 Oct 2023	0356_MW056_2310251200	Normal	NSW_0356_PFASOMP_23		<0.01	*0.06*	0.04	**0.1**	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW056	25 Oct 2023	0356_QC101_231025	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.1*	0.03	**0.13**	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW059	08 May 2019	0356_HLG_GW03_190508	Normal	NSW_0356_PFAS		<0.01	*0.04*	0.04	**0.08**	0.08	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW059	21 Jul 2022	0356_MW059_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW063	07 Feb 2019	0356_NSW1164_MW01D_190207	Normal	NSW_0356_PFAS		<0.05	*0.07*	<0.05	0.07	0.35	0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.23	<0.05	<0.05
MW063	09 May 2019	0356_NSW1164_MW01D_190509	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW063	19 Jul 2022	0356_MW063_220719	Normal	NSW_0356_PFASOMP_22		<0.01	*0.05*	<0.01	0.05	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.24	<0.05	<0.05
MW071	06 Feb 2019	0356_NSW1164_MW03D_190206	Normal	NSW_0356_PFAS		<0.05	*0.08*	<0.05	**0.08**	0.15	0.07	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05
MW071	09 May 2019	0356_NSW1164_MW03D_190509	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW071	19 Jul 2022	0356_MW071_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW073	06 Feb 2019	0356_NSW1164_MW03S_190206	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	1.52	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05
MW073	09 May 2019	0356_NSW1164_MW03S_190509	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW073	19 Jul 2022	0356_MW073_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW102	06 May 2019	0356_GW02D_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.11	<0.05	<0.05
MW102	08 May 2019	0356_GW02D_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05
MW102	20 Oct 2020	0356-GW-02D-201020	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW102	21 Jul 2022	0356_MW102_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW102	18 Jan 2023	0356_MW102_230118	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW102	18 Jan 2023	0356_QC104_230118	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Table T8 - Historical Groundwater Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water											
PFAS NEMP 2020 Freshwater 99%											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
MW008	15 May 2019	0356_CNN0018_GW08_190515	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	21 Jul 2022	0356_MW008_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	05 Oct 2018	CNN0018_GW02_181005	Normal	NSW_0356_PFAS	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW011	28 Feb 2019	0356_CNN0018_GW02_190228	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW011	15 May 2019	0356_CNN0018_GW02_190515	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC145_GW_190515	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC245_GW_190515	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	21 Jul 2022	0356_MW011_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	04 Oct 2018	GW_QC103_181004	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	05 Oct 2018	CNN0018_GW03_181005	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	05 Oct 2018	0356_GW_QC203_181005	Interlab_D	NSW_0356_PFAS	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW012	28 Feb 2019	0356_CNN0018_GW03_190228	Normal	NSW_0356_PFAS	0.019	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW012	15 May 2019	0356_CNN0018_GW03_190515	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	03 Oct 2018	0356_CNN0039_GW01_181003	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	27 Feb 2019	0356_CNN0039_GW01_190227	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW048	10 May 2019	0356_CNN0039_GW01_190510	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_MW048_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC103_220721	Field_D	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC203_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW049	03 Oct 2018	0356_CNN0039_GW02_181003	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW049	27 Feb 2019	0356_CNN0039_GW02_190227	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW049	10 May 2019	0356_CNN0039_GW02_190510	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	07 May 2019	0356_CNN0039_GW03_190507	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	21 Jul 2022	0356_MW050_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	10 May 2019	0356_CNN0039_GW05_190510	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	21 Jul 2022	0356_MW052_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	08 May 2019	0356_GW12_190508	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	30 May 2019	0356_GW12_190530	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	19 Jul 2023	0356_MW056_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251125	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251200	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_QC101_231025	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	08 May 2019	0356_HLG_GW03_190508	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	21 Jul 2022	0356_MW059_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW063	07 Feb 2019	0356_NSW1164_MW01D_190207	Normal	NSW_0356_PFAS	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW063	09 May 2019	0356_NSW1164_MW01D_190509	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW063	19 Jul 2022	0356_MW063_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	06 Feb 2019	0356_NSW1164_MW03D_190206	Normal	NSW_0356_PFAS	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW071	09 May 2019	0356_NSW1164_MW03D_190509	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	19 Jul 2022	0356_MW071_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	06 Feb 2019	0356_NSW1164_MW03S_190206	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	09 May 2019	0356_NSW1164_MW03S_190509	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	19 Jul 2022	0356_MW073_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	06 May 2019	0356_GW02D_190506	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	08 May 2019	0356_GW02D_190508	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	20 Oct 2020	0356-GW-02D-201020	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	21 Jul 2022	0356_MW102_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_MW102_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_QC104_230118	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																				
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																						
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
MW102	18 Jan 2023	0356_QC204_230118	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
MW102	17 Jul 2023	0356_MW102_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW109	10 May 2019	0356_GW03D_190510	Normal	NSW_0356_PFAS		<0.01	*0.28*	<0.02	**0.28**	1.76	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05
MW109	28 May 2019	0356_GW03D_190528	Normal	NSW_0356_PFAS		<0.01	*0.16*	<0.02	**0.16**	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05
MW109	19 Oct 2020	0356_QC254_201020	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW109	20 Oct 2020	0356-GW03D-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW109	20 Oct 2020	0356-QC154-201020	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW109	21 Jul 2022	0356_MW109_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW109	18 Jan 2023	0356_MW109_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.06*	0.06	**0.12**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW109	17 Jul 2023	0356_MW109_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW110	07 May 2019	0356_GW03S_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.3	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.3	<0.05	<0.05
MW110	20 Oct 2020	0356-GW03S-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW110	21 Jul 2022	0356_MW110_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW110	18 Jan 2023	0356_MW110_230118	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW110	17 Jul 2023	0356_MW110_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW114	06 May 2019	0356_GW04D_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW114	20 Oct 2020	0356-GW04D-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW114	21 Jul 2022	0356_MW114_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW114	17 Jul 2023	0356_MW114_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW115	06 May 2019	0356_GW04S_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW115	20 Oct 2020	0356-GW04S-201020	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW115	21 Jul 2022	0356_MW115_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW115	17 Jul 2023	0356_MW115_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW118	06 May 2019	0356_GW05S_190506	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05
MW118	21 Jul 2022	0356_MW118_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW118	17 Jul 2023	0356_MW118_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW118	17 Jul 2023	0356_QC100_230717	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW118	17 Jul 2023	0356_QC200_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
MW121	02 May 2019	0356_GW06_190502	Normal	NSW_0356_PFAS		0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	31 May 2019	0356_GW06_190531	Normal	NSW_0356_PFAS		0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	19 Oct 2020	0356_GW06_201019	Normal	NSW_0356_PFAS		0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	22 Jul 2022	0356_MW121_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	22 Jul 2022	0356_QC106_220722	Field_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	22 Jul 2022	0356_QC206_220722	Interlab_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
MW121	19 Jul 2023	0356_MW121_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	02 May 2019	0356_GW07_190502	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	31 May 2019	0356_GW07_190531	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	19 Oct 2020	0356_GW07_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	20 Jul 2022	0356_MW124_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.07	0.07	0.07	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	19 Jul 2023	0356_MW124_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW126	03 May 2019	0356_GW08S_190503	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05
MW126	22 Jul 2022	0356_MW126_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW126	18 Jul 2023	0356_MW126_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.22*	0.02	**0.24**	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW126	25 Oct 2023	0356_MW126_2310250850	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW126	25 Oct 2023	0356_MW126_2310251035	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW126	25 Oct 2023	0356_QC100_231025	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW128	03 May 2019	0356_GW09S_190503	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW128	30 May 2019	0356_GW09S_190530	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW128	22 Jul 2022	0356_MW128_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Table T8 - Historical Groundwater Analytical Results

				PFAS - Perfluoroalkyl Sulfonamides						
				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)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water										
PFAS NEMP 2020 Freshwater 99%										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**						
MW102	18 Jan 2023	0356_QC204_230118	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW102	17 Jul 2023	0356_MW102_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	10 May 2019	0356_GW03D_190510	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	28 May 2019	0356_GW03D_190528	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	19 Oct 2020	0356_QC254_201020	Interlab_D	NSW_0356_PFAS	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW109	20 Oct 2020	0356-GW03D-201020	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	20 Oct 2020	0356-QC154-201020	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	21 Jul 2022	0356_MW109_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	18 Jan 2023	0356_MW109_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	17 Jul 2023	0356_MW109_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	07 May 2019	0356_GW03S_190507	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	20 Oct 2020	0356-GW03S-201020	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	21 Jul 2022	0356_MW110_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	18 Jan 2023	0356_MW110_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	17 Jul 2023	0356_MW110_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	06 May 2019	0356_GW04D_190506	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	20 Oct 2020	0356-GW04D-201020	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	21 Jul 2022	0356_MW114_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	17 Jul 2023	0356_MW114_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	06 May 2019	0356_GW04S_190506	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	20 Oct 2020	0356-GW04S-201020	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	21 Jul 2022	0356_MW115_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	17 Jul 2023	0356_MW115_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	06 May 2019	0356_GW05S_190506	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	21 Jul 2022	0356_MW118_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_MW118_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC100_230717	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC200_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	02 May 2019	0356_GW06_190502	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	31 May 2019	0356_GW06_190531	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	19 Oct 2020	0356_GW06_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_MW121_220722	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC106_220722	Field_D	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC206_220722	Interlab_D	NSW_0356_PFASOMP_22	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	19 Jul 2023	0356_MW121_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	02 May 2019	0356_GW07_190502	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	31 May 2019	0356_GW07_190531	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Oct 2020	0356_GW07_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	20 Jul 2022	0356_MW124_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Jul 2023	0356_MW124_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	03 May 2019	0356_GW08S_190503	Normal	NSW_0356_PFAS	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW126	22 Jul 2022	0356_MW126_220722	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	18 Jul 2023	0356_MW126_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310250850	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310251035	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_QC100_231025	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	03 May 2019	0356_GW09S_190503	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	30 May 2019	0356_GW09S_190530	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	22 Jul 2022	0356_MW128_220722	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																			
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																					
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
MW128	18 Jul 2023	0356_MW128_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW129	03 May 2019	0356_GW10S_190503	Normal	NSW_0356_PFAS		<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW129	30 May 2019	0356_GW10S_190530	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW132	06 Nov 2018	0356_RESI_GW011_181106	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.03	0.05	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW132	07 May 2019	0356_RESI_GW011_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW132	19 Jul 2022	0356_MW132_220719	Normal	NSW_0356_PFASOMP_22		<0.01	*0.03*	0.03	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW139	18 Dec 2018	0356_RESI_GW013_181218	Normal	NSW_0356_PFAS		0.02	*0.03*	0.08	**0.11**	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW139	08 May 2019	0356_RESI_GW013_190508	Normal	NSW_0356_PFAS		<0.01	*0.03*	0.08	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW139	28 May 2020	0356_RESI_GW013_200528	Normal	NSW_0356_PFAS		0.02	*0.04*	0.06	**0.1**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW139	18 Jul 2023	0356_MW139_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW167	02 Oct 2018	0356_CNN0230_GW01_181002	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05
MW167	01 Mar 2019	0356_CNN0230_GW01_190301	Normal	NSW_0356_PFAS		<0.002	*0.012*	<0.002	0.012	0.36	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.348	<0.005	<0.005
MW167	15 May 2019	0356_CNN0230_GW01_190515	Normal	NSW_0356_PFAS		<0.01	*0.21*	0.02	**0.23**	0.74	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.51	<0.05	<0.05
MW167	21 Jul 2022	0356_MW167_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187D	03 Sep 2020	0356_MW09D_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187D	20 Jul 2022	0356_MW187D_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187D	19 Jul 2023	0356_MW187D_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187S	20 Jul 2022	0356_MW187S_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187S	20 Jul 2022	0356_QC102_220720	Field_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW187S	20 Jul 2022	0356_QC202_220720	Interlab_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
MW187S	19 Jul 2023	0356_MW187S_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW188D	03 Aug 2020	0356_QC251_200903	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW188D	03 Aug 2020	QC251_200903	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW188D	03 Sep 2020	0356_MW10D_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW188D	22 Jul 2022	0356_MW188D_220722	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	<0.01	0.02	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05
MW188D	19 Jul 2023	0356_MW188D_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	<0.01	0.03	0.19	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05
MW188S	03 Sep 2020	0356_MW10S_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW188S	03 Sep 2020	0356_QC151_200903	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW188S	22 Jul 2022	0356_MW188S_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
MW188S	19 Jul 2023	0356_MW188S_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T8 - Historical Groundwater Analytical Results

				PFAS - Perfluoroalkyl Sulfonamides						
				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)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water										
PFAS NEMP 2020 Freshwater 99%										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**						
MW128	18 Jul 2023	0356_MW128_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	03 May 2019	0356_GW10S_190503	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	30 May 2019	0356_GW10S_190530	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	06 Nov 2018	0356_RESI_GW011_181106	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	07 May 2019	0356_RESI_GW011_190507	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	19 Jul 2022	0356_MW132_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Dec 2018	0356_RESI_GW013_181218	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	08 May 2019	0356_RESI_GW013_190508	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	28 May 2020	0356_RESI_GW013_200528	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Jul 2023	0356_MW139_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW167	02 Oct 2018	0356_CNN0230_GW01_181002	Normal	NSW_0356_PFAS	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW167	01 Mar 2019	0356_CNN0230_GW01_190301	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW167	15 May 2019	0356_CNN0230_GW01_190515	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW167	21 Jul 2022	0356_MW167_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	03 Sep 2020	0356_MW09D_200903	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	20 Jul 2022	0356_MW187D_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	19 Jul 2023	0356_MW187D_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_MW187S_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC102_220720	Field_D	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC202_220720	Interlab_D	NSW_0356_PFASOMP_22	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW187S	19 Jul 2023	0356_MW187S_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	03 Aug 2020	0356_QC251_200903	Interlab_D	NSW_0356_PFAS	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05
MW188D	03 Aug 2020	QC251_200903	Interlab_D	NSW_0356_PFAS	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05
MW188D	03 Sep 2020	0356_MW10D_200903	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	22 Jul 2022	0356_MW188D_220722	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	19 Jul 2023	0356_MW188D_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_MW10S_200903	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_QC151_200903	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	22 Jul 2022	0356_MW188S_220722	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	19 Jul 2023	0356_MW188S_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T9 - Historical Surface Water Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																						
PFAS NEMP 2020 Recreational Water						**10**			**2**																				
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
OTH006	03 Apr 2019	0356_OTH006_190403	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
OTH006	19 Oct 2020	0356_OTH006_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
OTH006	19 Oct 2020	0356_QC152_201019	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
OTH006	19 Oct 2020	0356_QC252_201019	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
OTH006	20 Jul 2022	0356_OTH006_220720	Normal	NSW_0356_PFASOMP_22		0.01	*0.12*	0.11	0.23	0.27	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
OTH006	18 Jan 2023	0356_OTH006_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.16*	0.04	0.2	0.2	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
OTH006	19 Jul 2023	0356_OTH006_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	08 Oct 2018	0356_SW002_SW_181008	Normal	NSW_0356_PFAS		0.01	*0.33*	0.34	0.67	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	28 Feb 2019	0356_SW002_190228	Normal	NSW_0356_PFAS		0.007	*0.18*	0.21	0.39	0.465	0.013	0.011	0.005	<0.002	<0.01	0.009	0.026	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SW002	24 Apr 2019	0356_SW002_190424	Normal	NSW_0356_PFAS		0.02	*0.31*	0.2	0.51	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	16 Apr 2020	0356_SW002_200416	Normal	NSW_0356_PFAS		<0.01	*0.26*	0.24	0.5	0.54	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	21 Jul 2022	0356_QC104_220721	Field_D	NSW_0356_PFASOMP_22		0.01	*0.34*	0.21	0.55	0.6	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	21 Jul 2022	0356_QC204_220721	Interlab_D	NSW_0356_PFASOMP_22		0.01	*0.42*	0.24	0.66	0.76	0.02	0.02	0.01	<0.02	<0.02	<0.02	0.04	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW002	21 Jul 2022	0356_SW002_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.33*	0.24	0.57	0.65	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	17 Jan 2023	0356_SW002_230117	Normal	NSW_0356_PFASOMP_23		0.05	*0.85*	0.81	1.66	2.13	0.05	0.07	0.04	<0.02	<0.1	0.04	0.2	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	17 Jul 2023	0356_SW002_230717	Normal	NSW_0356_PFASOMP_23		0.07	*1*	1.2	**2.2**	2.61	0.03	0.07	0.03	<0.02	<0.1	0.03	0.15	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	30 Nov 2018	0356_SW003_181130	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	17 Apr 2019	0356_SW003_190417	Normal	NSW_0356_PFAS		0.02	*0.24*	0.23	0.47	0.61	0.06	<0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	21 Jul 2022	0356_SW003_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	17 Jan 2023	0356_SW003_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	17 Jul 2023	0356_QC102_230717	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW003	17 Jul 2023	0356_QC202_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW003	17 Jul 2023	0356_SW003_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW004	30 Nov 2018	0356_SW004_181130	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW004	18 Apr 2019	0356_SW004_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW004	18 Apr 2020	0356_SW004_200418	Normal	NSW_0356_PFAS		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW004	19 Jul 2022	0356_SW004_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW004	19 Jan 2023	0356_SW004_230119	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW004	19 Jul 2023	0356_SW004_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	30 Nov 2018	0356_SW005_181130	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	18 Apr 2019	0356_QC241_SW_190418	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01
SW005	18 Apr 2019	0356_SW005_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	18 Apr 2020	0356_SW005_200418	Normal	NSW_0356_PFAS		<0.002	*0.009*	0.004	0.013	0.013	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW005	19 Jul 2022	0356_SW005_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	19 Jul 2023	0356_SW005_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	08 Oct 2018	0356_SMA13_SW_181008	Normal	NSW_0356_PFAS		<0.01	*0.23*	0.12	0.35	-	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	24 Apr 2019	0356_SMA13_SW_190424	Normal	NSW_0356_PFAS		0.01	*0.24*	0.13	0.37	0.38	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Table T9 - Historical Surface Water Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Freshwater 99%											
PFAS NEMP 2020 Recreational Water											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
OTH006	03 Apr 2019	0356_OTH006_190403	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_OTH006_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC152_201019	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC252_201019	Interlab_D	NSW_0356_PFAS	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
OTH006	20 Jul 2022	0356_OTH006_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	18 Jan 2023	0356_OTH006_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Jul 2023	0356_OTH006_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	08 Oct 2018	0356_SW002_SW_181008	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	28 Feb 2019	0356_SW002_190228	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW002	24 Apr 2019	0356_SW002_190424	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	16 Apr 2020	0356_SW002_200416	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC104_220721	Field_D	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC204_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW002	21 Jul 2022	0356_SW002_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jan 2023	0356_SW002_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jul 2023	0356_SW002_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	30 Nov 2018	0356_SW003_181130	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Apr 2019	0356_SW003_190417	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	21 Jul 2022	0356_SW003_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jan 2023	0356_SW003_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC102_230717	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC202_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW003	17 Jul 2023	0356_SW003_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	30 Nov 2018	0356_SW004_181130	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2019	0356_SW004_190418	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2020	0356_SW004_200418	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW004	19 Jul 2022	0356_SW004_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jan 2023	0356_SW004_230119	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jul 2023	0356_SW004_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	30 Nov 2018	0356_SW005_181130	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2019	0356_QC241_SW_190418	Interlab_D	NSW_0356_PFAS	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW005	18 Apr 2019	0356_SW005_190418	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2020	0356_SW005_200418	Normal	NSW_0356_PFAS	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW005	19 Jul 2022	0356_SW005_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	19 Jul 2023	0356_SW005_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	08 Oct 2018	0356_SMA13_SW_181008	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	24 Apr 2019	0356_SMA13_SW_190424	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T9 - Historical Surface Water Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																						
PFAS NEMP 2020 Recreational Water						**10**			**2**																				
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
SW026	16 Apr 2020	0356_QC101_200416	Field_D	NSW_0356_PFAS		<0.01	*0.27*	0.12	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	16 Apr 2020	0356_SMA13_200416	Normal	NSW_0356_PFAS		<0.01	*0.24*	0.11	0.35	0.35	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	21 Jul 2022	0356_SW026_220721	Normal	NSW_0356_PFASOMP_22		0.02	*0.76*	0.44	1.2	1.38	0.06	0.03	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	17 Jan 2023	0356_SW026_230117	Normal	NSW_0356_PFASOMP_23		0.02	*0.63*	0.28	0.91	1.08	0.04	0.03	<0.02	<0.02	<0.1	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW026	17 Jul 2023	0356_SW026_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.33*	0.16	0.49	0.49	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	25 Oct 2018	0356_QC134_SW_181025	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	25 Oct 2018	0356_QC234_SW_181025	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01
SW028	25 Oct 2018	0356_SWA7_SW_181025	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	17 Apr 2019	0356_SMA7_SW_190417	Normal	NSW_0356_PFAS		<0.01	*0.03*	<0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	21 Jul 2022	0356_SW028_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	17 Jan 2023	0356_QC101_230117	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	17 Jan 2023	0356_QC201_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW028	17 Jan 2023	0356_SW028_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	18 Jul 2023	0356_QC103_230718	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW028	18 Jul 2023	0356_QC203_230718	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW028	18 Jul 2023	0356_SW028_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW032	22 Mar 2019	0356_SW032_190322	Normal	NSW_0356_PFAS		<0.01	*0.07*	0.02	0.09	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW032	21 Jul 2022	0356_SW032_220721	Normal	NSW_0356_PFASOMP_22		0.03	*0.86*	0.71	1.57	1.81	0.04	0.06	<0.02	<0.02	<0.1	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW032	17 Jan 2023	0356_SW032_230117	Normal	NSW_0356_PFASOMP_23		0.08	*2.13*	1.69	**3.82**	4.85	0.17	0.21	0.07	<0.02	<0.1	0.06	0.4	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW032	17 Jul 2023	0356_SW032_230717	Normal	NSW_0356_PFASOMP_23		0.04	*2.02*	1.01	**3.03**	3.38	0.05	0.07	0.04	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	30 Nov 2018	0356_SMA8_SW_181130	Normal	NSW_0356_PFAS		<0.01	*0.16*	0.09	0.25	0.32	0.03	<0.02	<0.02	<0.02	<0.1	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	08 Feb 2019	0356_SMA8_SW_190208	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	24 Apr 2019	0356_SMA8_SW_190424	Normal	NSW_0356_PFAS		<0.01	*0.21*	0.1	0.31	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	24 Apr 2020	0356_SMA8_200424	Normal	NSW_0356_PFAS		0.01	*0.43*	0.44	0.87	0.96	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	19 Oct 2020	0356_SMA8_201019	Normal	NSW_0356_PFAS		<0.01	*0.35*	0.36	0.71	0.81	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	21 Jul 2022	0356_SW034_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.35*	0.24	0.59	0.64	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	17 Jan 2023	0356_QC103_230117	Field_D	NSW_0356_PFASOMP_23		0.04	*1.33*	0.52	1.85	2.21	0.04	0.05	0.03	<0.02	<0.1	0.03	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	17 Jan 2023	0356_QC203_230117	Interlab_D	NSW_0356_PFASOMP_23		0.03	*1.1*	0.73	1.8	2.2	0.07	0.05	0.03	<0.02	<0.02	0.04	0.12	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW034	17 Jan 2023	0356_SW034_230117	Normal	NSW_0356_PFASOMP_23		0.04	*1.35*	0.55	1.9	2.29	0.05	0.05	0.03	<0.02	<0.1	0.04	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW034	17 Jul 2023	0356_SW034_230717	Normal	NSW_0356_PFASOMP_23		0.02	*0.54*	0.39	0.93	1.06	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW035	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW035	11 Apr 2019	0356_RESI_SW035_190411	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW035	19 Jul 2022	0356_SW035_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW035	18 Jan 2023	0356_SW035_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW035	18 Jul 2023	0356_SW035_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW036	11 Apr 2019	0356_RESI_SW036_190411	Normal	NSW_0356_PFAS		<0.01	*0.2*	0.09	0.29	0.29	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW036	19 Jul 2022	0356_SW036_220719	Normal	NSW_0356_PFASOMP_22		<0.01	*0.23*	0.15	0.38	0.41	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Table T9 - Historical Surface Water Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Freshwater 99%											
PFAS NEMP 2020 Recreational Water											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SW026	16 Apr 2020	0356_QC101_200416	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	16 Apr 2020	0356_SMA13_200416	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	21 Jul 2022	0356_SW026_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jan 2023	0356_SW026_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jul 2023	0356_SW026_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC134_SW_181025	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC234_SW_181025	Interlab_D	NSW_0356_PFAS	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	25 Oct 2018	0356_SWA7_SW_181025	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Apr 2019	0356_SMA7_SW_190417	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	21 Jul 2022	0356_SW028_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC101_230117	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC201_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	17 Jan 2023	0356_SW028_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC103_230718	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC203_230718	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	18 Jul 2023	0356_SW028_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	22 Mar 2019	0356_SW032_190322	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	21 Jul 2022	0356_SW032_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jan 2023	0356_SW032_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jul 2023	0356_SW032_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	30 Nov 2018	0356_SMA8_SW_181130	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	08 Feb 2019	0356_SMA8_SW_190208	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2019	0356_SMA8_SW_190424	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2020	0356_SMA8_200424	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	19 Oct 2020	0356_SMA8_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	21 Jul 2022	0356_SW034_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC103_230117	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC203_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW034	17 Jan 2023	0356_SW034_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jul 2023	0356_SW034_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_RESI_SW035_190411	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	19 Jul 2022	0356_SW035_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jan 2023	0356_SW035_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jul 2023	0356_SW035_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	11 Apr 2019	0356_RESI_SW036_190411	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	19 Jul 2022	0356_SW036_220719	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T9 - Historical Surface Water Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																					
PFAS NEMP 2020 Recreational Water						**10**			**2**																			
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SW036	18 Jan 2023	0356_SW036_230118	Normal	NSW_0356_PFASOMP_23		0.03	*0.94*	0.58	1.52	1.75	0.02	0.04	<0.02	<0.02	<0.1	0.03	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW036	18 Jul 2023	0356_SW036_230718	Normal	NSW_0356_PFASOMP_23		0.02	*0.58*	0.37	0.95	1.11	0.03	0.02	<0.02	<0.02	<0.1	0.03	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS		0.02	*0.07*	<0.01	0.07	0.12	<0.01	<0.01	<0.01	<0.02	<0.02	0.02	0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01
SW039	12 Apr 2019	0356_RESI_SW039_190412	Normal	NSW_0356_PFAS		0.02	*0.08*	<0.02	0.08	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW039	20 Apr 2020	0356-RESI-SW039-200420	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW039	20 Jul 2022	0356_SW039_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW039	18 Jan 2023	0356_SW039_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	0.01	0.04	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW039	18 Jul 2023	0356_SW039_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW040	07 May 2019	0356_SW040_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW040	21 Jul 2022	0356_SW040_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW040	17 Jan 2023	0356_SW040_230117	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW040	18 Jul 2023	0356_SW040_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW064	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS		0.01	*0.02*	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW064	17 Apr 2019	0356_RESI_SW041_190417	Normal	NSW_0356_PFAS		0.02	*0.02*	<0.02	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW064	22 Apr 2020	0356_QC204_200422	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	0.02	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01
SW064	22 Apr 2020	0356_RESI_SW041_200422	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW064	20 Jul 2022	0356_SW064_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW064	18 Jan 2023	0356_SW064_230118	Normal	NSW_0356_PFASOMP_23		0.02	*0.06*	0.02	0.08	0.33	0.09	<0.02	<0.02	<0.02	<0.1	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05
SW064	19 Jul 2023	0356_SW064_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	17 Apr 2019	0356_RESI_SW042_190417	Normal	NSW_0356_PFAS		0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	20 Jul 2022	0356_QC101_220720	Field_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	20 Jul 2022	0356_QC201_220720	Interlab_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.05	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW065	20 Jul 2022	0356_SW065_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	18 Jan 2023	0356_SW065_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	<0.01	0.03	0.11	0.05	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	19 Jul 2023	0356_QC105_230719	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW065	19 Jul 2023	0356_QC205_230719	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02
SW065	19 Jul 2023	0356_SW065_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW114	21 Jul 2022	0356_SW114_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	<0.01	0.01	0.03	<0.02	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW115	21 Jul 2022	0356_SW115_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.49*	0.33	0.82	0.86	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW116	21 Jul 2022	0356_SW116_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW553	19 Oct 2020	0356_SW553_201019	Normal	NSW_0356_PFAS		0.01	*0.25*	0.28	0.53	0.65	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW553	20 Jul 2022	0356_SW553_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.08*	0.07	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW553	18 Jan 2023	0356_SW553_230118	Normal	NSW_0356_PFASOMP_23		0.01	*0.3*	0.2	0.5	0.73	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.18	<0.05	<0.05
SW553	19 Jul 2023	0356_SW553_230719	Normal	NSW_0356_PFASOMP_23		0.01	*0.22*	0.27	0.49	0.56	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW554	19 Oct 2020	0356_SW554_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW554	20 Jul 2022	0356_SW554_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.05*	0.04	0.09	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW555	21 Jul 2022	0356_SW555_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Table T9 - Historical Surface Water Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Freshwater 99%											
PFAS NEMP 2020 Recreational Water											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SW036	18 Jan 2023	0356_SW036_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jul 2023	0356_SW036_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW039	12 Apr 2019	0356_RESI_SW039_190412	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	20 Apr 2020	0356-RESI-SW039-200420	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	20 Jul 2022	0356_SW039_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jan 2023	0356_SW039_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jul 2023	0356_SW039_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	07 May 2019	0356_SW040_190507	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	21 Jul 2022	0356_SW040_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	17 Jan 2023	0356_SW040_230117	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	18 Jul 2023	0356_SW040_230718	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_RESI_SW041_190417	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	22 Apr 2020	0356_QC204_200422	Interlab_D	NSW_0356_PFAS	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW064	22 Apr 2020	0356_RESI_SW041_200422	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	20 Jul 2022	0356_SW064_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	18 Jan 2023	0356_SW064_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	19 Jul 2023	0356_SW064_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	17 Apr 2019	0356_RESI_SW042_190417	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC101_220720	Field_D	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC201_220720	Interlab_D	NSW_0356_PFASOMP_22	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	20 Jul 2022	0356_SW065_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	18 Jan 2023	0356_SW065_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC105_230719	Field_D	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC205_230719	Interlab_D	NSW_0356_PFASOMP_23	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	19 Jul 2023	0356_SW065_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW114	21 Jul 2022	0356_SW114_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW115	21 Jul 2022	0356_SW115_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW116	21 Jul 2022	0356_SW116_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Oct 2020	0356_SW553_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	20 Jul 2022	0356_SW553_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	18 Jan 2023	0356_SW553_230118	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Jul 2023	0356_SW553_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW554	19 Oct 2020	0356_SW554_201019	Normal	NSW_0356_PFAS	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW554	20 Jul 2022	0356_SW554_220720	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	21 Jul 2022	0356_SW555_220721	Normal	NSW_0356_PFASOMP_22	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T9 - Historical Surface Water Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																					
PFAS NEMP 2020 Recreational Water						**10**			**2**																			
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SW555	17 Jul 2023	0356_SW555_230717	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW563	19 Jul 2023	0356_SW563_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T9 - Historical Surface Water Analytical Results

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Freshwater 99%											
PFAS NEMP 2020 Recreational Water											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SW555	17 Jul 2023	0356_SW555_230717	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	19 Jul 2023	0356_SW563_230719	Normal	NSW_0356_PFASOMP_23	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T10 - Historical Sediment Analytical Results

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									
					Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																			
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS	<0.0002	0.0024	0.0004	0.0028	-	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS	<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS	<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS	<0.0002	0.001	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22	0.0002	0.0345	0.0017	0.0362	0.0372	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.0001	0.037	0.0017	0.039	0.04	<0.0001	<0.0001	0.0002	0.0003	0.0002	0.0002	0.0002	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22	0.0002	0.0428	0.0018	0.0446	0.0448	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.006	0.0018	0.0078	0.0088	<0.0002	<0.0002	<0.0002	0.0007	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0013	0.0003	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS	<0.0002	0.0009	<0.0002	0.0009	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS	<0.0002	0.0013	<0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS	<0.0002	0.0334	0.0035	0.0369	0.0386	0.0002	<0.0002	<0.0002	0.0004	<0.001	0.0003	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0026	<0.0002	0.0026	0.0026	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23	<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	0.0032	0.0002	0.0034	0.0034	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0002	<0.0005	<0.005	<0.002	<0.002	<0.005
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS	<0.0002	0.0002	<0.0002	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD004_190117	Normal	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS	<0.0002	0.0004	<0.0002	0.0004	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD005_190118	Normal	NSW_0356_PFAS	<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190118	Field_D	NSW_0356_PFAS	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190118	Interlab_D	NSW_0356_PFAS	<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS	<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190418	Interlab_D	NSW_0356_PFAS	<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS	<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0018	<0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS	<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0044	0.0007	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	0.0002	0.0019	<0.0001	0.0019	0.002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD039	12 Apr 2019	0356_RESI_SD039_190412	Normal	NSW_0356_PFAS	<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD039	20 Apr 2020	0356_RESI_SD039_200420	Normal	NSW_0356_PFAS	0.0003	0.0036	<0.0002	0.0036	0.0039	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0038	<0.0002	0.0038	0.0038	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23	<0.0010	0.0029	<0.0010	0.0029	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	0.0020	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005

Table T10 - Historical Sediment Analytical Results

					PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**											
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	<0.0001	<0.0002	<0.0002	<0.002	<0.005	<0.0002	<0.01	<0.001	<0.0004	<0.005
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD004_190117	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD005_190118	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190118	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190118	Interlab_D	NSW_0356_PFAS	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190418	Interlab_D	NSW_0356_PFAS	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD039	12 Apr 2019	0356_RESI_SD039_190412	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	20 Apr 2020	0356_RESI_SD039_200420	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0025	<0.0010	<0.0025
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Table T10 - Historical Sediment Analytical Results

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									
					Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																			
SD046	17 Apr 2019	0356_RESI_SD041_190417	Normal	NSW_0356_PFAS	<0.0002	0.0034	<0.0002	0.0034	0.0034	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS	<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0004	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01
SD046	22 Apr 2020	0356_RESI_SD041_200422	Normal	NSW_0356_PFAS	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0034	0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_190417	Normal	NSW_0356_PFAS	<0.0002	0.0047	<0.0002	0.0047	0.0049	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22	0.0002	0.0081	0.0002	0.0083	0.0085	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22	0.0002	0.0094	0.0002	0.0096	0.0099	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0075	<0.0002	0.0075	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0048	0.0003	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.0002	0.0017	0.0003	0.002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_190411	Normal	NSW_0356_PFAS	<0.0002	0.0012	0.0003	0.0015	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0009	<0.0002	0.0009	0.0019	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181008	Normal	NSW_0356_PFAS	<0.0002	0.002	<0.0002	0.0020	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_190228	Normal	NSW_0356_PFAS	<0.0002	0.0226	0.0011	0.0237	0.0237	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190424	Normal	NSW_0356_PFAS	<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS	<0.0002	0.0613	0.0004	0.0617	0.0617	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200416	Normal	NSW_0356_PFAS	<0.0002	0.0118	<0.0002	0.0118	0.0118	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0043	0.0002	0.0045	0.0045	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0051	0.0004	0.0055	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0017	<0.0002	0.0017	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0002	0.0053	0.0004	0.0057	-	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0002	0.0012	<0.0002	0.0012	-	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181025	Interlab_D	NSW_0356_PFAS	<0.0002	0.0027	<0.0002	0.0027	0.0057	<0.0002	<0.0002	<0.0002	0.0030	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01
SD055	25 Oct 2018	0356_SMA7_SD_181025	Normal	NSW_0356_PFAS	<0.0002	0.0048	0.0006	0.0054	-	<0.0002	<0.0002	<0.0002	0.0017	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005
SD055	28 Feb 2019	0356_SMA7__SD_190228	Normal	NSW_0356_PFAS	<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_190417	Normal	NSW_0356_PFAS	<0.0002	0.001	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0026	0.0003	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	0.0034	<0.0002	0.0034	0.0064	<0.0002	<0.0002	<0.0002	0.0028	<0.001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	0.002	<0.0001	0.0020	0.0030	<0.0001	<0.0001	<0.0001	0.001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.002	<0.0002	0.0020	0.0038	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23	<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	0.0009	<0.0001	0.0009	0.0009	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0009	<0.0002	0.0009	0.0013	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	08 Oct 2018	0356_SMA8_SD_181008	Normal	NSW_0356_PFAS	<0.0002	0.0024	<0.0002	0.0024	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_190228	Normal	NSW_0356_PFAS	<0.0002	0.0066	0.0005	0.0071	0.0071	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_190424	Normal	NSW_0356_PFAS	<0.0002	0.0048	0.0004	0.0052	0.0052	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	0.0006	0.0001	0.0007	0.0007	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0005	<0.0002	0.0005	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_181116	Normal	NSW_0356_PFAS	<0.0002	0.0135	0.0024	0.0159	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS	<0.0002	0.0118	0.0014	0.0132	0.0132	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD080	20 Apr 2020	0356_RESI_SD013_200420	Normal	NSW_0356_PFAS	<0.0002	0.0111	0.0013	0.0124	0.0124	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	0.0010	<0.0002	0.0010	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	0.0189	0.0021	0.0210	0.0213	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005

Table T10 - Historical Sediment Analytical Results

					PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**											
SD046	17 Apr 2019	0356_RESI_SD041_190417	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD046	22 Apr 2020	0356_RESI_SD041_200422	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_190417	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_190411	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181008	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_190228	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190424	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200416	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181025	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181025	Interlab_D	NSW_0356_PFAS	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD055	25 Oct 2018	0356_SMA7_SD_181025	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	28 Feb 2019	0356_SMA7__SD_190228	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_190417	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	08 Oct 2018	0356_SMA8_SD_181008	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_190228	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_190424	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.0001	<0.0001	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_181116	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	20 Apr 2020	0356_RESI_SD013_200420	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Table T10 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																				
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0235	0.0018	0.0253	0.0253	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0023	<0.0002	0.0023	0.0023	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	<0.0002	0.0011	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22		0.0002	0.0457	0.0023	0.0480	0.0496	<0.0002	<0.0002	<0.0002	0.0010	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23		0.0003	0.0351	0.0023	0.0374	0.0391	<0.0002	<0.0002	<0.0002	0.0007	<0.001	0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0226	0.0013	0.0239	0.0242	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS		<0.0002	0.0088	0.0008	0.0096	0.0096	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0112	0.0004	0.0116	0.0116	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0052	0.0002	0.0054	0.0054	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD540	19 Oct 2020	0356_SD540_201019	Normal	NSW_0356_PFAS		<0.0002	0.0128	<0.0002	0.0128	0.0133	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0003	<0.0002	<0.0002	<0.0005
SD540	20 Jul 2022	0356_SD540_220720	Normal	NSW_0356_PFASOMP_22		0.0002	0.0120	0.0003	0.0123	0.0125	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0044	<0.0002	0.0044	0.0044	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Table T10 - Historical Sediment Analytical Results

					PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**											
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD540	19 Oct 2020	0356_SD540_201019	Normal	NSW_0356_PFAS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD540	20 Jul 2022	0356_SD540_220720	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Appendix C

Calibration Certificates

Certificate of Service and Calibration
Interface Meter
Heron H.Oil

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	[redacted]
Contact Name	[redacted]
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	01-8271
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_8.1

Instrument Check			
Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H_2O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings		
Product	Buzzer	LED Light
H_2O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	[redacted]
Calibration Date	11/07/2023
Calibration Due	11/01/2024

WAM Scientific:
Sydney Office - Clemton Park
16 Lawn Avenue
CLEMTON PARK NSW 2206
T: +61 405 241 484
E: rentals@wamscientific.com.au

Website: www.wamscientific.com.au
Alternate Email Addresses:
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service@wamscientific.com.au

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Water Quality Meter
YSI Professional Plus

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	[redacted]
Contact Name	[redacted]
Instrument	YSI ProPlus Water Quality Meter w/ 1m Quatro Cable
Serial Number	21A102653
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_8.1
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	13.8	13.5	13.8	°C
pH	pH 4.00	386466	4.01	4.02	4.01	pH
pH	pH 7.00	387329	7.00	7.01	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2780	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	255.8	257.1	255.8	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	0.1	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	102.3	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	[redacted]
Calibration Date	10/07/2023
Calibration Due	10/01/2024

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
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AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	NAM.
Make and Model:	YSI Professional Plus.
Serial Number:	–

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	17/07/2023 @ 0940				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.00	4.00	2760		
Calibration Reading:	6.98	3.97	2760		
Calibration Temperature:	–	–			

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] — 17/07/23 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	WAM
Make and Model:	YSI PRO PLUS
Serial Number:	–

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	18/07/2023 @ 0745.				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.00	4.00			
Calibration Reading:	6.96	3.97			
Calibration Temperature:					

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] — 18/07/2023 Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	WAM
Make and Model:	YSI PRO PLUS
Serial Number:	-

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	19/07/2023 @ 0810.				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.00	4.00	2760		
Calibration Reading:	6.99	3.96	2758		
Calibration Temperature:					

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] — 19/07/2023 (Date)

Distribution: Project Central File

FIELDWORK QUALITY MANUAL

FQM-5.05-F1 – GROUNDWATER SAMPLING AND PURGING RECORD

Bore ID: MW056

Project Name:	Residential Sampling Singleton	Project Number:	60612562 / 8.1	PM Name:	[redacted]	Sample Date:	25/10/23
Client:	Defence	Project Location:	Singleton	Fieldwork Staff:		Well Development or Well Sampling Event? (circle)	

GENERAL BORE INFORMATION		PARAMETER INFO.	DECONTAMINATION	SAMPLING METHOD:	HYDRASLEEVE INFO.	
Date of GW Level: 25.10.23	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	Low Flow: Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.475	Screen Interval (m):	Chem Kit Model: 451 PRO	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 8.280	Casing Radius (mm):	Corrected Redox: Y (N)	☑ Disposable	☐ Bailer ☑ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				

Calculated bore volume (L): — | Includes/ excludes bore annulus (circle) — | # purge volumes removed: — | Total purged volume (L): —

WATER QUALITY PARAMETERS

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1125	—	—	—	4.16	3410	7.13	64.7	23.5	clear, colourless, no odour
				Sampled @ 1125					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

ANALYTES SAMPLED FOR:		BOTTLES COLLECTED			QA/QC INFORMATION	FIELD COMMENTS
Field Filtered: ✓	Unfiltered: 4	~~x 40 mL Vial (HCl)~~	~~x 60 mL Ferrous~~	~~x 60 mL metals (HNO_3)~~	QC101	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		~~x 40 mL Vial (H_2SO_4)~~	~~x 100 mL Amber~~	~~x 250 mL Plastic~~	RPA	Good condition. MS re-installed
		4 x 125mL PFAS				

Approval and Distribution

[redacted]
Project Manager Signature

25/10/23
Date

Checker Name and Signature

Date

Distribution: Project Central File

FIELDWORK QUALITY MANUAL

FQM-5.05-F1 – GROUNDWATER SAMPLING AND PURGING RECORD

Bore ID: MW036

Project Name:	Residential Sampling Singleton	Project Number:	60612562 / 8.1	PM Name:	[redacted]	Sample Date:	25·10·23
Client:	Defence	Project Location:	Singleton	Fieldwork Staff:		Well Development or Well Sampling Event? (circle)	

GENERAL BORE INFORMATION		PARAMETER INFO.	DECONTAMINATION	SAMPLING METHOD:	HYDRASLEEVE INFO.	
Date of GW Level: 25·10·23	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	Low Flow: Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order)
Depth to GW (m-pvc): 5.480	Screen Interval (m):	Chem Kit Model: 451 Pro	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 8.280	Casing Radius (mm):	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install Time:	Hydrasleeve out
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				

Calculated bore volume (L): | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

WATER QUALITY PARAMETERS

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
	1.0			2.51	3638	7.06	53.6	20.3	light brown, ST, no odour
	2.0			2.37	3591	7.05	49.2	19.0	" "
	3.0			2.82	3422	7.03	44.0	19.4	clear, (colourless), no odour
	4.0			3.60	3258	7.03	42.3	19.2	" "
	5.0			2.92	3410	7.08	40.6	19.2	" "
	6.0	5.480		3.50	3295	7.03	39.6	19.2	" "
	7.0			2.95	3459	7.07	37.7	19.2	" "
	8.6			2.98	3451	7.09	37.7	19.1	" "
	9.0			3.01	3272	7.10	32.5	19.1	" "
	10.0			3.12	3263	7.12	33.4	19.3	" "
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

ANALYTES SAMPLED FOR:	BOTTLES COLLECTED			QA/QC INFORMATION	FIELD COMMENTS
Field Filtered: ✓ Unfiltered: ✓	x 40 mL Vial (HCl)	x 60 mL Ferrous	x ~~50 mL metals (HNO_3)~~	QC201	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
	x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		MC.

Approval and Distribution

[redacted] — 25/10 (Date) — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

FIELDWORK QUALITY MANUAL

FQM-5.05-F1 – GROUNDWATER SAMPLING AND PURGING RECORD

Bore ID: MW056

Project Name:	Residential Sampling Singleton	Project Number:	60612562 / 8.1	PM Name:	[redacted]	Sample Date:	
Client:	Defence	Project Location:	Singleton	Fieldwork Staff:		Well Development or Well Sampling Event? (circle)	

GENERAL BORE INFORMATION		PARAMETER INFO.	DECONTAMINATION	SAMPLING METHOD:	HYDRASLEEVE INFO.	
Date of GW Level: 23/10/25	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	Low Flow: Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.480	Screen Interval (m):	Chem Kit Model: 451 P/O	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 8.280	Casing Radius (mm):	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L): — | Includes/ excludes bore annulus (circle) — | # purge volumes removed: — | Total purged volume (L): —

WATER QUALITY PARAMETERS

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate L/M	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1150	0.5	5.480	0.25	1.02	3378	7.01	56.6	20.1	Clear, colourless, no odour
1152	1.0	5.480		0.94	3363	7.30	52.9	19.9	" "
1154	1.5	5.480		0.92	3398	6.99	28.1	20.0	" "
1156	2.0	"		0.96	3391	6.99	22.6	19.7	" "
1158	2.5	"		0.99	3403	6.98	20.1	20.2	" "
1200	3.0	"		0.99	3380	6.99	20.0	20.1	" "
				Sampled @ 1200					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

ANALYTES SAMPLED FOR:		BOTTLES COLLECTED			QA/QC INFORMATION	FIELD COMMENTS
Field Filtered:	Unfiltered:	[redacted]	[redacted]	[redacted]	NA	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
/	4	4 25mL PFAS				Good condition MS re-installed tubing removed & disposed

Approval and Distribution

[redacted] — 23/10/25 (Date) — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	**Validation by:**	[redacted]	**Date:**	7/11/2023
Client:	Department of Defence	**Data verified by:**		**Date:**	16/11/2023
Site:	Singleton Lone Pine Barracks	**Project Manager:**			
Matrix type:	Groundwater, surface water, sediment and other				
Primary samples:	16 Groundwater samples (plus 4 from resampling), 17 Surface Water samples, 20 Sediment samples and 1 waste-water effluent sample				
Laboratory:	Primary: ALS				
Lab reference:	ES2324262-AA, ES2324262-AB, ES2324262-AC, ES2324262-AD, ES2324262-AE, ES2324262-AF, ES2336767 and ES2336799 (ALS), 328563, 328563-A (Envirolab)				
Key Issues:	No Quality Assurance and Quality Control (QA/QC) issues were identified in the field or laboratory datasets that could have a material implication to decision-making on the project.				

Field QA/QC

Field DQOs and DQIs	The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2023).
Sampling personnel	Sampling was conducted between 17/07/2023 and 19/07/2023 and subsequent resampling was undertaken on 25 October 2023. Field personnel were suitably qualified and experienced AECOM Environmental Scientists.
Sampling Methodology	All water samples were collected in accordance with the methodology outlined in the SAQP (AECOM, 2023).
Chain of Custody (COC)	All samples collected were reported on the Chain of Custody documents (COC) and subsequent email amendments and analysed for requested analytes.
Rinsate Blank	Rinsate blank samples were collected at a frequency of 1 per day of sampling during the initial sampling event where equipment was re-used and decontaminated between sample points (a total of 3 rinsate blank samples were collected). Rinsate blank samples were collected from the final rinse of the interface probe following decontamination, using laboratory-supplied de-ionised water.
Frequency of field QC	Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at or above a frequency of one in ten primary samples (10%), meeting the DQI. In total: • 6 water field duplicates and 6 water field triplicates were collected (15.7%) for 38 primary water samples • 2 sediment field duplicates and 2 sediment field triplicates were collected (10%) for 20 primary sediment samples in total.
Handling and preservation	All samples were received by the primary laboratory in appropriate containers, with ice present between 2.4 and 6.0 ˚C, within the recommended temperature range (≤6°C). All samples were received by the secondary laboratory in appropriate containers, with ice present and at 4˚C, within the recommended temperature range (≤6°C).
Calibration of equipment	Measurements of water quality parameters were undertaken using a YSI Professional Plus water quality meter, which was calibrated by the supplier prior to use, in accordance with the manufacturer's instructions and bump tested by the field personnel prior to use. Measurements of depth to groundwater were undertaken using interface probes, which were serviced by the supplier prior to use.

	All equipment calibration and service certificates are presented in **Appendix C**.
Laboratory QA/QC	
Laboratory DQOs and DQIs	The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2023).
Tests requested/reported	All samples were analysed for per- and polyfluoroalkyl substances (PFAS) extended suite, at the standard Laboratory Limit of Reporting (LOR). All sample requests for analysis are reported on the Chain of Custody (COC).
Holding time compliance	All samples were extracted and analysed by the laboratory within the recommended holding times.
Laboratory accreditation	The primary laboratory analysis was conducted by ALS Environmental Pty Ltd (Sydney) a National Association of Testing Authorities (NATA) accredited laboratory (Accreditation No. 825). The secondary laboratory sample analysis was conducted by Envirolab Services, also a NATA accredited laboratory (accreditation number 2901).
Frequency of laboratory QC	The primary laboratory (ALS) reported a sufficient frequency of quality control samples to assess whether the results have been reported with acceptable accuracy and precision, with the exception of the following: **Matrix Spikes** • ES2336799: PFAS by LCMSMS (actual rate: 0.00%, expected rate: 10.00%) • ES2336797: PFAS by LCMSMS (actual rate: 0.00%, expected rate: 10.00%) The precision and accuracy of the data can be assessed as acceptable based on method blanks, laboratory duplicates, laboratory control spike and surrogate spike recoveries which were reported at the required frequencies and within the control limits.
Method Blank	All method blank concentrations were reported <LOR (limit of reporting) for the analytes tested, meeting the project requirements. This is presented in the Quality Control Reports for both laboratories.
Laboratory duplicate RPDs	The reported laboratory duplicate's Relative Percentage Differences (RPDs) were within laboratory control limits. The laboratory duplicate RPDs are presented in the Quality Control Reports for both laboratories.
LCS recovery	Laboratory control spike (LCS) recoveries were within control limits. This is presented in the Quality Control Reports for both laboratories.
Matrix spike recovery	Matrix spike (MS) recoveries were within control limits with the exception of: **Non-determined MS recoveries** • ES2324156-022 (Anonymous): Perfluorooctane sulfonic acid (PFOS) This is an anonymous soil sample and not collected by AECOM. The non-determination was due to background levels being greater than or equal to four times spike levels, which do not reflect method bias or affect data interpretation.
Surrogate spike recovery	The reported surrogate spike recoveries were within laboratory control limits.

DATA VALIDATION REPORT

QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalies between field observations and analytical results were noted.
Anomalous data / Repeat Analysis	Following the reporting of PFAS concentrations which were first-time exceedances at three locations (MW056, MW126 and SW002), the primary laboratory was requested to confirm the results by re-analysis. The repeat analysis confirmed the originally reported concentrations. Additionally, MW056 and MW126 were resampled on 25 October 2023 to confirm the results for samples collected on 19 and 18 July, respectively. The following were observed: • **MW056**: The PFAS concentrations for samples collected in October 2023 were similar to the July 2023 results, therefore confirming the increase in concentrations at this location. • **MW126**: The PFAS concentrations for samples collected in October 2023 were significantly less than those reported in July 2023 sample, and also similar to historical results. The resampling indicates that the PFAS results for the July 2023, may be an error as it is considered anomalous.
Data transcription	A check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and the tables generated by AECOM.
Limits of reporting	With the exception of the PFAS NEMP Freshwater 99% species protection (HEPA 2020) values for PFOS, the laboratory LORs were sufficiently low to enable assessment against adopted guideline criteria.
Rinsate Blank sample results	The concentrations of PFAS in the Rinsate Blank samples (**Table D2**) were below the LOR, indicating decontamination procedures were adequate.
RPDs for Field Duplicates / Triplicates	Field duplicates (intra-laboratory duplicates) RPDs for field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were reported within acceptable limits (≤30%, or ≤50% for results 10-20 x LOR, or No Limit for results <10 x LOR), with the exception of: <u>Intra-laboratory duplicates (Field Duplicates) RPDs</u> **SD003/QC101** - Perfluorooctane sulfonic acid (PFOS): 103% The elevated RPD for sediment is likely to be attributed to the heterogeneous nature of the sediment sampled and given that the concentrations are within the same order of magnitude it is therefore considered acceptable. Where required for quantitative purposes, the highest concentration from the primary and duplicate pair was used in the assessment.
Overall Assessment	
	Data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

Attached:

Table D1 – Water Duplicate RPDs
Table D2 – Sediment Duplicate RPDs
Table D3 – Rinsate Blank Results

Table D1 - Water Duplicate RPDs

Lab Report Number				ES2324262	ES2324262		ES2324262	328563		ES2324262	ES2324262		ES2324262	328563	
Field ID				0356_MW118_230717	0356_QC100_230717		0356_MW118_230717	0356_QC200_230717		0356_SW003_230717	0356_QC102_230717		0356_SW003_230717	0356_QC202_230717	
Matrix Type				Water	Water		Water	Water		Water	Water		Water	Water	
Date				17 Jul 2023	17 Jul 2023	RPD	17 Jul 2023	17 Jul 2023	RPD	17 Jul 2023	17 Jul 2023	RPD	17 Jul 2023	17 Jul 2023	RPD
	Unit	LOR	**RPD**												
PFAS															
Perfluorooctanoic acid (PFOA)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	0.01	0.02	67	0.01	0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	0.01	0.01	0	0.01	0.01	0
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	0.02	0.03	40	0.02	0.02	0
Sum of PFAS	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	0.02	0.03	40	0.02	0.02	0
PFAS - Perfluoroalkyl Sulfonic Acids															
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
PFAS - Perfluoroalkyl Carboxylic Acids															
Perfluorobutanoic acid (PFBA)	µg/L	0.02		<0.1	<0.1	nc	<0.1	<0.02	nc	<0.1	<0.1	nc	<0.1	<0.02	nc
Perfluoropentanoic acid (PFPeA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.02	nc	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc
PFAS - (n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides												nc			
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.1	nc	<0.05	<0.05	nc	<0.05	<0.1	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc

Notes
LOR = Limit of Reporting
µg/L = micrograms per litre
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold.

Table D1 - Water Duplicate RPDs

Lab Report Number				ES2324262	ES2324262		ES2324262	328563		ES2324262	ES2324262		ES2324262	328563-A	
Field ID				0356_SW028_230718	0356_QC103_230718		0356_SW028_230718	0356_QC203_230718		0356_SW065_230719	0356_QC105_230719		0356_SW065_230719	0356_QC205_230719	
Matrix Type				Water	Water		Water	Water		Water	Water		Water	Water	
Date				18 Jul 2023	18 Jul 2023	RPD	18 Jul 2023	18 Jul 2023	RPD	19 Jul 2023	19 Jul 2023	RPD	19 Jul 2023	19 Jul 2023	RPD
	Unit	LOR	**RPD**												
PFAS															
Perfluorooctanoic acid (PFOA)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Sum of PFAS	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
PFAS - Perfluoroalkyl Sulfonic Acids															
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
PFAS - Perfluoroalkyl Carboxylic Acids															
Perfluorobutanoic acid (PFBA)	µg/L	0.02		<0.1	<0.1	nc	<0.1	<0.02	nc	<0.1	<0.1	nc	<0.1	<0.02	nc
Perfluoropentanoic acid (PFPeA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.02	nc	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc
PFAS - (n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides															
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.1	nc	<0.05	<0.05	nc	<0.05	<0.1	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc

Notes
LOR = Limit of Reporting
µg/L = micrograms per litre
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold.

Table D1 - Water Duplicate RPDs

			Lab Report Number	ES2336799	ES2336799		ES2336797	ES2336797		
			Field ID	0356_MW126_2310250850	0356_QC100_231025		0356_MW056_2310251125	0356_QC101_231025		
			Matrix Type	Water	Water		Water	Water		
			Date	25 Oct 2023	25 Oct 2023	RPD	25 Oct 2023	25 Oct 2023	RPD	
	Unit	LOR	**RPD**							
PFAS										
Perfluorooctanoic acid (PFOA)	µg/L	0.01		<0.01	<0.01	nc	<0.01	<0.01	nc	
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		0.01	<0.01	nc	0.09	0.10	11	
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		0.02	0.02	0	0.03	0.03	0	
Sum of PFHxS and PFOS	µg/L	0.01		0.03	0.02	40	0.12	0.13	8	
Sum of PFAS	µg/L	0.01		0.03	0.02	40	0.12	0.13	8	
PFAS - Perfluoroalkyl Sulfonic Acids										
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
PFAS - Perfluoroalkyl Carboxylic Acids										
Perfluorobutanoic acid (PFBA)	µg/L	0.02		<0.1	<0.1	nc	<0.1	<0.1	nc	
Perfluoropentanoic acid (PFPeA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorodecanoic acid (PFDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	
PFAS - (n:2) Fluorotelomer Sulfonic Acids										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.05	nc	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01		<0.05	<0.05	nc	<0.05	<0.05	nc	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.05	nc	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02		<0.05	<0.05	nc	<0.05	<0.05	nc	
PFAS - Perfluoroalkyl Sulfonamides										
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	nc	<0.02	<0.02	nc	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	nc	<0.05	<0.05	nc	

Notes
LOR = Limit of Reporting
µg/L = micrograms per litre
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold.

Table D2 - Sediment Duplicate RPDs

Lab Report Number				ES2324262	ES2324262		ES2324262	328563		ES2324262	ES2324262		ES2324262	328563	
Field ID				0356_SD003_230717	0356_QC101_230717		0356_SD003_230717	0356_QC201_230717		0356_SD055_230718	0356_QC104_230718		0356_SD055_230718	0356_QC204_230718	
Matrix Type				Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
Date				17 Jul 2023	17 Jul 2023	RPD	17 Jul 2023	17 Jul 2023	RPD	18 Jul 2023	18 Jul 2023	RPD	18 Jul 2023	18 Jul 2023	RPD
	Unit	LOR	**RPD**												
PFAS															
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		0.0028	0.0009	**103**	0.0028	0.0032	13	0.0009	0.0008	12	0.0009	0.0009	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	0.0002	0	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Sum of PFHxS and PFOS	mg/kg	0.0001		0.0028	0.0009	**103**	0.0028	0.0034	19	0.0009	0.0008	12	0.0009	0.0009	0
Sum of PFAS	mg/kg	0.0001		0.0028	0.0009	**103**	0.0028	0.0034	19	0.0013	0.0008	48	0.0013	0.0009	36
PFAS - Perfluoroalkyl Sulfonic Acids															
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	0.0004	<0.0002	nc	0.0004	<0.0002	nc
PFAS - Perfluoroalkyl Carboxylic Acids															
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002		<0.001	<0.001	nc	<0.001	<0.0002	nc	<0.001	<0.001	nc	<0.001	<0.0002	nc
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorononanoic acid (PFNA)	mg/kg	0.0001		<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.0005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005		<0.0005	<0.0005	nc	<0.0005	<0.005	nc	<0.0005	<0.0005	nc	<0.0005	<0.005	nc
PFAS - (n:2) Fluorotelomer Sulfonic Acids															
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001		<0.0005	<0.0005	nc	<0.0005	<0.0001	nc	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0001		<0.0005	<0.0005	nc	<0.0005	<0.0001	nc	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002		<0.0005	<0.0005	nc	<0.0005	<0.0002	nc	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002		<0.0005	<0.0005	nc	<0.0005	<0.0002	nc	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc
PFAS - Perfluoroalkyl Sulfonamides															
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.002	nc	<0.0002	<0.0002	nc	<0.0002	<0.001	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005		<0.0005	<0.0005	nc	<0.0005	<0.005	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005		<0.0005	<0.0005	nc	<0.0005	<0.01	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005		<0.0005	<0.0005	nc	<0.0005	<0.001	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002		<0.0002	<0.0002	nc	<0.0002	<0.0004	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005		<0.0005	<0.0005	nc	<0.0005	<0.005	nc	<0.0005	<0.0005	nc	<0.0005	<0.005	nc

Notes
LOR = Limit of Reporting
mg/kg = milligrams per kilogram
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold.

Table D3 - Rinsate Blank Results

		Lab Report Number	ES2324262	ES2324262	ES2324262
		Field ID	0356_QC300_230717	0356_QC301_230718	0356_QC302_230719
		Matrix Type	Water	Water	Water
		Date	17 Jul 2023	18 Jul 2023	19 Jul 2023
	Unit	LOR			
PFAS					
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01
PFAS - Perfluoroalkyl Sulfonic Acids					
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02
PFAS - Perfluoroalkyl Carboxylic Acids					
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05
PFAS - (n:2) Fluorotelomer Sulfonic Acids					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	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
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	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
PFAS - Perfluoroalkyl Sulfonamides					
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05

Notes
LOR = Limit of Reporting

Appendix E

Laboratory Certificates

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AA**	Page	: 1 of 21
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:17
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 37		
No. of samples analysed	: 37		

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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: PFAS results for samples #28,38,48 and 57 confirmed by direct injection analysis.
- This report has been amended following the request to report specific samples on a separate COA, as received from the Client Contact on 21/7/2023, for privacy considerations.
- Amendment (31/07/2023):This report has been amended following a request to update the sample matrix type for two samples. All analytical 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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW102_230717	0356_MW109_230717	0356_MW110_230717	0356_MW114_230717	0356_MW115_230717
				Sampling date / time	17-Jul-2023 11:48	17-Jul-2023 10:53	17-Jul-2023 11:04	17-Jul-2023 10:37	17-Jul-2023 10:28
Compound	CAS Number	LOR	Unit		ES2324262-001	ES2324262-002	ES2324262-003	ES2324262-004	ES2324262-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW102_230717	0356_MW109_230717	0356_MW110_230717	0356_MW114_230717	0356_MW115_230717
				Sampling date / time	17-Jul-2023 11:48	17-Jul-2023 10:53	17-Jul-2023 11:04	17-Jul-2023 10:37	17-Jul-2023 10:28
Compound	CAS Number	LOR	Unit		ES2324262-001	ES2324262-002	ES2324262-003	ES2324262-004	ES2324262-005
					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		<0.01	<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	%		**93.2**	**98.4**	**93.8**	**92.1**	**89.6**
13C8-PFOA	----	0.02	%		**90.6**	**92.6**	**94.8**	**94.0**	**90.1**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW118_230717	0356_QC100_230717	----	----	----
				Sampling date / time	17-Jul-2023 10:03	17-Jul-2023 10:03	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-006	ES2324262-055	--------	--------	--------
					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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW118_230717	0356_QC100_230717	----	----	----
				Sampling date / time	17-Jul-2023 10:03	17-Jul-2023 10:03	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-006	ES2324262-055	--------	--------	--------
					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	%		**96.6**	**95.9**	----	----	----
13C8-PFOA	----	0.02	%		**94.9**	**110**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0356_QC300_230717	0356_QC301_230718	0356_QC302_230719	----	----
				Sampling date / time	17-Jul-2023 14:32	18-Jul-2023 13:41	19-Jul-2023 15:38	----	----
Compound	CAS Number	LOR	Unit		ES2324262-061	ES2324262-062	ES2324262-063	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0356_QC300_230717	0356_QC301_230718	0356_QC302_230719	----	----
				Sampling date / time	17-Jul-2023 14:32	18-Jul-2023 13:41	19-Jul-2023 15:38	----	----
Compound	CAS Number	LOR	Unit		ES2324262-061	ES2324262-062	ES2324262-063	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<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	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**112**	**97.5**	----	----
13C8-PFOA	----	0.02	%		**106**	**100**	**99.5**	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD002_230717	0356_SD053_230717	0356_SD065_230717	0356_SD115_230717	0356_SD003_230717
				Sampling date / time	17-Jul-2023 12:12	17-Jul-2023 13:38	17-Jul-2023 11:50	17-Jul-2023 11:21	17-Jul-2023 12:44
Compound	CAS Number	LOR	Unit		ES2324262-007	ES2324262-008	ES2324262-009	ES2324262-010	ES2324262-039
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**26.1**	**26.1**	**34.4**	**26.8**	**34.5**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		**0.0003**	<0.0002	<0.0002	**0.0013**	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0013**	**0.0017**	**0.0005**	**0.0226**	**0.0028**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0003**	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD002_230717	0356_SD053_230717	0356_SD065_230717	0356_SD115_230717	0356_SD003_230717
				Sampling date / time	17-Jul-2023 12:12	17-Jul-2023 13:38	17-Jul-2023 11:50	17-Jul-2023 11:21	17-Jul-2023 12:44
Compound	CAS Number	LOR	Unit		ES2324262-007	ES2324262-008	ES2324262-009	ES2324262-010	ES2324262-039
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0016**	**0.0017**	**0.0005**	**0.0242**	**0.0028**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0016**	**0.0017**	**0.0005**	**0.0239**	**0.0028**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0016**	**0.0017**	**0.0005**	**0.0242**	**0.0028**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**104**	**102**	**98.6**	**89.0**	**107**
13C8-PFOA	----	0.0002	%		**110**	**111**	**116**	**106**	**114**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD004_230719	0356_SD005_230719	0356_SD032_230717	0356_SD040_230718	0356_SD055_230718
				Sampling date / time	19-Jul-2023 14:45	19-Jul-2023 15:06	17-Jul-2023 13:18	18-Jul-2023 13:37	18-Jul-2023 09:51
Compound	CAS Number	LOR	Unit		ES2324262-040	ES2324262-041	ES2324262-042	ES2324262-043	ES2324262-044
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**56.5**	**40.5**	**18.9**	**22.9**	**24.5**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	**0.0009**	**0.0004**	<0.0002	**0.0009**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**0.0004**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	**0.002**	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD004_230719	0356_SD005_230719	0356_SD032_230717	0356_SD040_230718	0356_SD055_230718
				Sampling date / time	19-Jul-2023 14:45	19-Jul-2023 15:06	17-Jul-2023 13:18	18-Jul-2023 13:37	18-Jul-2023 09:51
Compound	CAS Number	LOR	Unit		ES2324262-040	ES2324262-041	ES2324262-042	ES2324262-043	ES2324262-044
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	**0.0009**	**0.0004**	**0.0020**	**0.0013**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	**0.0009**	**0.0004**	<0.0002	**0.0009**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	**0.0009**	**0.0004**	**0.0020**	**0.0009**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**107**	**111**	**104**	**114**	**114**
13C8-PFOA	----	0.0002	%		**108**	**114**	**114**	**110**	**109**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD114_230717	0356_SD116_230717	0356_SD555_230717	0356_QC101_230717	0356_QC104_230718
				Sampling date / time	17-Jul-2023 14:16	17-Jul-2023 12:27	17-Jul-2023 14:03	17-Jul-2023 12:44	18-Jul-2023 09:51
Compound	CAS Number	LOR	Unit		ES2324262-045	ES2324262-046	ES2324262-047	ES2324262-056	ES2324262-059
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**26.8**	**6.8**	**43.9**	**33.6**	**36.8**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0011**	**0.0007**	**0.0012**	**0.0009**	**0.0008**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD114_230717	0356_SD116_230717	0356_SD555_230717	0356_QC101_230717	0356_QC104_230718
				Sampling date / time	17-Jul-2023 14:16	17-Jul-2023 12:27	17-Jul-2023 14:03	17-Jul-2023 12:44	18-Jul-2023 09:51
Compound	CAS Number	LOR	Unit		ES2324262-045	ES2324262-046	ES2324262-047	ES2324262-056	ES2324262-059
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0011**	**0.0007**	**0.0012**	**0.0009**	**0.0008**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0011**	**0.0007**	**0.0012**	**0.0009**	**0.0008**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0011**	**0.0007**	**0.0012**	**0.0009**	**0.0008**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**98.2**	**104**	**105**	**106**	**97.2**
13C8-PFOA	----	0.0002	%		**103**	**107**	**110**	**108**	**105**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW002_230717	0356_SW026_230717	0356_SW034_230717	0356_SW003_230717	0356_SW004_230719
				Sampling date / time	17-Jul-2023 12:10	17-Jul-2023 13:37	17-Jul-2023 11:39	17-Jul-2023 12:45	19-Jul-2023 14:46
Compound	CAS Number	LOR	Unit		ES2324262-011	ES2324262-012	ES2324262-013	ES2324262-048	ES2324262-049
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	<0.02	**0.03**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.07**	<0.02	**0.02**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.20**	**0.16**	**0.39**	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1.00**	**0.33**	**0.54**	**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		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.15**	<0.02	**0.06**	<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		**0.07**	<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	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW002_230717	0356_SW026_230717	0356_SW034_230717	0356_SW003_230717	0356_SW004_230719
				Sampling date / time	17-Jul-2023 12:10	17-Jul-2023 13:37	17-Jul-2023 11:39	17-Jul-2023 12:45	19-Jul-2023 14:46
Compound	CAS Number	LOR	Unit		ES2324262-011	ES2324262-012	ES2324262-013	ES2324262-048	ES2324262-049
					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		**2.61**	**0.49**	**1.06**	**0.02**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**2.20**	**0.49**	**0.93**	**0.02**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2.51**	**0.49**	**1.04**	**0.02**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.0**	**90.2**	**90.2**	**98.2**	**101**
13C8-PFOA	----	0.02	%		**89.6**	**94.8**	**90.2**	**102**	**103**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW005_230719	0356_SW028_230718	0356_SW032_230717	0356_SW040_230718	0356_SW555_230717
				Sampling date / time	19-Jul-2023 15:05	18-Jul-2023 09:49	17-Jul-2023 13:15	18-Jul-2023 13:34	17-Jul-2023 14:01
Compound	CAS Number	LOR	Unit		ES2324262-050	ES2324262-051	ES2324262-052	ES2324262-053	ES2324262-054
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.05**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.07**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**1.01**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**0.04**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**2.02**	<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		<0.02	<0.02	**0.13**	<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	**0.04**	<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: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW005_230719	0356_SW028_230718	0356_SW032_230717	0356_SW040_230718	0356_SW555_230717
				Sampling date / time	19-Jul-2023 15:05	18-Jul-2023 09:49	17-Jul-2023 13:15	18-Jul-2023 13:34	17-Jul-2023 14:01
Compound	CAS Number	LOR	Unit		ES2324262-050	ES2324262-051	ES2324262-052	ES2324262-053	ES2324262-054
					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	**3.38**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**3.03**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**3.27**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.0**	**101**	**95.7**	**97.6**	**97.6**
13C8-PFOA	----	0.02	%		**102**	**102**	**103**	**102**	**105**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_QC102_230717	0356_QC103_230718	----	----	----
				Sampling date / time	17-Jul-2023 12:45	18-Jul-2023 09:49	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-057	ES2324262-058	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.01**	<0.01	----	----	----
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		**0.02**	<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: SURFACE WATER (Matrix: WATER)				Sample ID	0356_QC102_230717	0356_QC103_230718	----	----	----
				Sampling date / time	17-Jul-2023 12:45	18-Jul-2023 09:49	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-057	ES2324262-058	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.7**	**92.3**	----	----	----
13C8-PFOA	----	0.02	%		**99.2**	**104**	----	----	----

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AB**	Page	: 1 of 7
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:18
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: PFAS results for samples #28,38,48 and 57 confirmed by direct injection analysis.
- This report has been amended following the request to report specific samples on a separate COA, as received from the Client Contact on 21/7/2023, for privacy considerations.
- Amendment (31/07/2023):This report has been amended following a request to update the sample matrix type for two samples. All analytical results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD039_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 09:12	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-014	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**37.4**	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0012**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD039_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 09:12	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-014	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0012**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0012**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0012**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**102**	----	----	----	----
13C8-PFOA	----	0.0002	%		**106**	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW039_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 09:11	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-015	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW039_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 09:11	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-015	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**94.2**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SEDIMENT**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: **SURFACE WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AC**	Page	: 1 of 9
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:18
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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.

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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.
- EP231X: PFAS results for samples #28,38,48 and 57 confirmed by direct injection analysis.
- This report has been amended following the request to report specific samples on a separate COA, as received from the Client Contact on 21/7/2023, for privacy considerations.
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- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_230718	0356_MW128_230718	----	----	----
				Sampling date / time	18-Jul-2023 11:57	18-Jul-2023 12:45	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-016	ES2324262-017	--------	--------	--------
					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		**0.02**	<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		**0.22**	<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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_230718	0356_MW128_230718	----	----	----
				Sampling date / time	18-Jul-2023 11:57	18-Jul-2023 12:45	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-016	ES2324262-017	--------	--------	--------
					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		**0.24**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.24**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.24**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.8**	**88.7**	----	----	----
13C8-PFOA	----	0.02	%		**93.1**	**92.1**	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD052_230718	0356_SD080_230718	----	----	----
				Sampling date / time	18-Jul-2023 12:45	18-Jul-2023 11:56	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-018	ES2324262-019	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**34.7**	**33.4**	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	**0.0018**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0004**	**0.0235**	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD052_230718	0356_SD080_230718	----	----	----
				Sampling date / time	18-Jul-2023 12:45	18-Jul-2023 11:56	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-018	ES2324262-019	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0004**	**0.0253**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0004**	**0.0253**	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0004**	**0.0253**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**109**	**119**	----	----	----
13C8-PFOA	----	0.0002	%		**112**	**113**	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW035_230718	0356_SW036_230718	----	----	----
				Sampling date / time	18-Jul-2023 12:40	18-Jul-2023 11:55	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-020	ES2324262-021	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.03**	----	----	----
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	**0.37**	----	----	----
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		**0.02**	**0.58**	----	----	----
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	**0.03**	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.06**	----	----	----
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	**0.02**	----	----	----
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: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW035_230718	0356_SW036_230718	----	----	----
				Sampling date / time	18-Jul-2023 12:40	18-Jul-2023 11:55	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-020	ES2324262-021	--------	--------	--------
					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		**0.02**	**1.11**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	**0.95**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	**1.09**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.6**	**94.4**	----	----	----
13C8-PFOA	----	0.02	%		**95.9**	**90.0**	----	----	----

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AD**	Page	: 1 of 5
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:19
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: PFAS results for samples #28,38,48 and 57 confirmed by direct injection analysis.
- This report has been amended following the request to report specific samples on a separate COA, as received from the Client Contact on 21/7/2023, for privacy considerations.
- Amendment (31/07/2023):This report has been amended following a request to update the sample matrix type for two samples. All analytical 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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW139_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 10:34	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-022	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW139_230718	----	----	----	----
				Sampling date / time	18-Jul-2023 10:34	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-022	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.6**	----	----	----	----
13C8-PFOA	----	0.02	%		**93.7**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AE**	Page	: 1 of 5
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:19
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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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.

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^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

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Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 13:48	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-023	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.04**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.12**	----	----	----	----
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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 13:48	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-023	--------	--------	--------	--------
					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		**0.16**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.16**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.16**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.7**	----	----	----	----
13C8-PFOA	----	0.02	%		**93.2**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324262-AF**	Page	: 1 of 13
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023 17:24
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023 19:19
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: PFAS results for samples #28,38,48 and 57 confirmed by direct injection analysis.
- This report has been amended following the request to report specific samples on a separate COA, as received from the Client Contact on 21/7/2023, for privacy considerations.
- Amendment (31/07/2023):This report has been amended following a request to update the sample matrix type for two samples. All analytical 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: EFFLUENT (Matrix: WATER)				Sample ID	0356_OTH006_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 12:33	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2324262-038	--------	--------	--------	--------	--------
				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: EFFLUENT (Matrix: WATER)				Sample ID	0356_OTH006_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 12:33	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-038	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.01**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.01**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.01**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.0**	----	----	----	----
13C8-PFOA	----	0.02	%		**103**	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0356_MW121_230719	0356_MW124_230719	0356_MW187D_230719	0356_MW187S_230719	0356_MW188D_230719
				Sampling date / time	19-Jul-2023 13:02	19-Jul-2023 11:05	19-Jul-2023 10:11	19-Jul-2023 10:07	19-Jul-2023 16:00
					ES2324262-024	ES2324262-025	ES2324262-026	ES2324262-027	ES2324262-028
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.02**	<0.01	<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	**0.03**
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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW121_230719	0356_MW124_230719	0356_MW187D_230719	0356_MW187S_230719	0356_MW188D_230719
				Sampling date / time	19-Jul-2023 13:02	19-Jul-2023 11:05	19-Jul-2023 10:11	19-Jul-2023 10:07	19-Jul-2023 16:00
Compound	CAS Number	LOR	Unit		ES2324262-024	ES2324262-025	ES2324262-026	ES2324262-027	ES2324262-028
					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	**0.16**
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	<0.01	**0.19**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.02**	<0.01	<0.01	**0.03**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.02**	<0.01	<0.01	**0.19**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**92.8**	**99.6**	**97.0**	**99.2**	**97.9**
13C8-PFOA	----	0.02	%		**92.1**	**94.4**	**91.4**	**108**	**104**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW188S_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 11:32	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2324262-029	--------	--------	--------	--------	--------
				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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW188S_230719	----	----	----	----
				Sampling date / time	19-Jul-2023 11:32	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2324262-029	--------	--------	--------	--------
					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	%		**99.0**	----	----	----	----
13C8-PFOA	----	0.02	%		**104**	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD046_230719	0356_SD047_230719	0356_SD539_230719	0356_SD563_230719	----
				Sampling date / time	19-Jul-2023 10:54	19-Jul-2023 09:48	19-Jul-2023 12:50	19-Jul-2023 13:26	----
Compound	CAS Number	LOR	Unit		ES2324262-030	ES2324262-031	ES2324262-032	ES2324262-033	--------
					Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**23.4**	**41.4**	**49.8**	**23.7**	**----**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	**0.0002**	<0.0002	**----**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0052**	**0.0044**	**----**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	**----**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	**0.0006**	<0.0002	<0.0002	**----**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	**----**
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**----**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	**----**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD046_230719	0356_SD047_230719	0356_SD539_230719	0356_SD563_230719	----
				Sampling date / time	19-Jul-2023 10:54	19-Jul-2023 09:48	19-Jul-2023 12:50	19-Jul-2023 13:26	----
Compound	CAS Number	LOR	Unit		ES2324262-030	ES2324262-031	ES2324262-032	ES2324262-033	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	**0.0006**	**0.0054**	**0.0044**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0054**	**0.0044**	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	**0.0006**	**0.0054**	**0.0044**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**114**	**118**	**99.2**	**105**	----
13C8-PFOA	----	0.0002	%		**112**	**117**	**119**	**114**	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW064_230719	0356_SW065_230719	0356_SW553_230719	0356_SW563_230719	0356_QC105_230719
				Sampling date / time	19-Jul-2023 10:52	19-Jul-2023 09:46	19-Jul-2023 12:48	19-Jul-2023 13:29	19-Jul-2023 09:46
Compound	CAS Number	LOR	Unit		ES2324262-034	ES2324262-035	ES2324262-036	ES2324262-037	ES2324262-060
					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	**0.27**	<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	**0.22**	<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	**0.04**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.01**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW064_230719	0356_SW065_230719	0356_SW553_230719	0356_SW563_230719	0356_QC105_230719
				Sampling date / time	19-Jul-2023 10:52	19-Jul-2023 09:46	19-Jul-2023 12:48	19-Jul-2023 13:29	19-Jul-2023 09:46
Compound	CAS Number	LOR	Unit		ES2324262-034	ES2324262-035	ES2324262-036	ES2324262-037	ES2324262-060
					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	**0.56**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.49**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.54**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.5**	**99.6**	**100**	**97.5**	**81.4**
13C8-PFOA	----	0.02	%		**106**	**102**	**104**	**105**	**86.1**

Surrogate Control Limits

Sub-Matrix: EFFLUENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AA**	Page	: 1 of 23
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 37		
No. of samples analysed	: 37		

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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5190998)									
ES2324050-002	Anonymous	EA055: Moisture Content	----	0.1	%	4.6	4.9	6.9	No Limit
ES2324254-001	Anonymous	EA055: Moisture Content	----	0.1	%	33.8	34.8	2.7	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5190999)									
ES2324262-010	0356_SD115_230717	EA055: Moisture Content	----	0.1	%	26.8	26.4	1.7	0% - 20%
ES2324262-042	0356_SD032_230717	EA055: Moisture Content	----	0.1	%	18.9	23.0	19.6	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5191000)									
WN2308875-012	Anonymous	EA055: Moisture Content	----	0.1	%	3.0	2.9	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	0356_SD002_230717	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0013	0.0012	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0044	0.0044	0.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5189571)									
ES2324156-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5189571) - continued									
ES2324156-022	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0008	0.0009	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0955	0.101	6.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2324220-012	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0239	0.0218	9.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0246	0.0227	8.0	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.140	0.123	13.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0163	0.0138	16.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.536	0.477	11.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0020	0.0016	21.2	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095)									
ES2324262-007	0356_SD002_230717	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5189571)									
ES2324156-022	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5189571) - continued									
ES2324156-022	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2324220-012	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0104	0.0095	9.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0560	0.0525	6.4	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0092	0.0080	14.6	0% - 50%
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0191	0.0165	14.9	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0009	0.0009	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0007	0.0005	28.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.006	0.007	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186095)									
ES2324262-007	0356_SD002_230717	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186095) - continued									
ES2324262-033	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5189571)									
ES2324156-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324220-012	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0022	0.0019	14.7	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	0356_SD002_230717	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186095) - continued									
ES2324262-033	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5189571)									
ES2324156-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324220-012	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0019	0.0013	33.5	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186164)									
ES2324262-002	0356_MW109_230717	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
ES2324262-016	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	0.22	0.20	7.9	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186167)									
ES2324262-027	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186167) - continued									
ES2324262-027	Anonymous	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
ES2324262-050	0356_SW005_230719	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: 5192044)									
ES2324262-061	0356_QC300_230717	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
ES2324262-063	0356_QC302_230719	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: 5186164)									
ES2324262-002	0356_MW109_230717	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
ES2324262-016	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164) - continued									
ES2324262-016	Anonymous	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186167)									
ES2324262-027	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
ES2324262-050	0356_SW005_230719	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: 5192044)									
ES2324262-061	0356_QC300_230717	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: 5192044) - continued									
ES2324262-061	0356_QC300_230717	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
ES2324262-063	0356_QC302_230719	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: 5186164)									
ES2324262-002	0356_MW109_230717	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
ES2324262-016	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186167)									

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: 5186167) - continued									
ES2324262-027	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
ES2324262-050	0356_SW005_230719	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: 5192044)									
ES2324262-061	0356_QC300_230717	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
ES2324262-063	0356_QC302_230719	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5192044) - continued									
ES2324262-063	0356_QC302_230719	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: 5186164)									
ES2324262-002	0356_MW109_230717	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
ES2324262-016	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186167)									
ES2324262-027	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
ES2324262-050	0356_SW005_230719	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: 5186167) - continued									
ES2324262-050	0356_SW005_230719	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: 5192044)									
ES2324262-061	0356_QC300_230717	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
ES2324262-063	0356_QC302_230719	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: 5186164)									
ES2324262-002	0356_MW109_230717	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 5186167)									
ES2324262-027	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-050	0356_SW005_230719	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5192044)									
ES2324262-061	0356_QC300_230717	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-063	0356_QC302_230719	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.8	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.6	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.1	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.3	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.3	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5189571)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.4	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.0	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	79.9	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.1	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.1	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.8	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5189571)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	92.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	71.0	131

Sub-Matrix: **SOIL**

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: 5189571) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.2	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	111	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.7	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	77.1	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	73.4	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5189571)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.3	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	113	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.5	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.5	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	82.1	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	103	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.8	69.2	143

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5189571)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	108	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	102	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186167)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	88.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	98.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	92.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	94.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	92.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	86.3	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192044)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	90.2	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	83.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	101	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	96.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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

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: 5186164) - continued								
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186167)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	95.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.5	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.5	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.6	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192044)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	101	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	100.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	109	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147

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: 5186164) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186167)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	77.1	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	79.5	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	90.2	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	108	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192044)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	105	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	95.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	107	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	100	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186167)								

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: 5186167) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 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	0.25 µg/L	92.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	123	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	112	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192044)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	97.3	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	109	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	122	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	0356_SD002_230717	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	85.2	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	85.8	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	87.5	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	127	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	78.5	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5189571)							
ES2324156-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	102	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	94.3	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	98.0	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	100	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	106	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)							
ES2324262-007	0356_SD002_230717	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	82.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	99.5	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	95.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	100	71.0	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095) - continued							
ES2324262-007	0356_SD002_230717	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	105	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.7	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	93.2	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	89.3	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	128	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	77.1	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5189571)							
ES2324156-022	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.3	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	113	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	102	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	118	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	115	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	117	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	119	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	120	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	95.5	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	108	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	111	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)							
ES2324262-007	0356_SD002_230717	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	90.0	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	89.4	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	90.9	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	79.2	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	86.7	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	93.9	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5189571)							
ES2324156-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	114	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	101	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	95.6	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	116	68.7	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5189571) - continued							
ES2324156-022	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	97.7	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	114	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	98.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	0356_SD002_230717	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	91.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	100	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	83.4	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5189571)							
ES2324156-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	109	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	102	69.2	143

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: 5186164)							
ES2324262-003	0356_MW110_230717	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186167)							
ES2324262-028	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	89.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	110	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	97.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	109	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	99.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	94.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5192044)							
ES2324262-062	0356_QC301_230718	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	96.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	101	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	90.6	68.0	131

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: 5192044) - continued							
ES2324262-062	0356_QC301_230718	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	105	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	99.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	0356_MW110_230717	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186167)							
ES2324262-028	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	108	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	101	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	100	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5192044)							
ES2324262-062	0356_QC301_230718	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	104	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	107	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	103	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	105	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	102	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	114	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	105	65.0	144

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: 5192044) - continued							
ES2324262-062	0356_QC301_230718	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	116	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)							
ES2324262-003	0356_MW110_230717	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186167)							
ES2324262-028	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	99.9	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	87.4	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	112	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	108	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	97.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192044)							
ES2324262-062	0356_QC301_230718	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	96.3	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	105	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	92.7	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	105	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.5	65.0	136

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5192044) - continued							
ES2324262-062	0356_QC301_230718	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	0356_MW110_230717	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186167)							
ES2324262-028	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	85.7	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	88.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	106	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	83.4	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5192044)							
ES2324262-062	0356_QC301_230718	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	100	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	90.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	121	71.4	144

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AB**	Page	: 1 of 11
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5190999)									
ES2324262-010	Anonymous	EA055: Moisture Content	----	0.1	%	26.8	26.4	1.7	0% - 20%
ES2324262-042	Anonymous	EA055: Moisture Content	----	0.1	%	18.9	23.0	19.6	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0013	0.0012	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0044	0.0044	0.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095) - continued									
ES2324262-007	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	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	0.22	0.20	7.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164)									
ES2324262-002	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

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: 5186164) - continued									
ES2324262-002	Anonymous	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
ES2324262-016	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: 5186164)									
ES2324262-002	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
ES2324262-016	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

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: 5186164)									
ES2324262-002	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
ES2324262-016	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: 5186164)									
ES2324262-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method 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: 5186095)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.8	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.6	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.1	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.3	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.3	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	79.9	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.1	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.1	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.8	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.7	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	77.1	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	73.4	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)								

Sub-Matrix: **SOIL**

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: 5186095) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	82.1	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	103	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.8	69.2	143

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: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145

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: 5186164) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	85.2	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	85.8	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	87.5	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	127	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	78.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	82.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	99.5	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	95.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	100	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	105	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.7	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	93.2	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	89.3	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	128	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	77.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095) - continued							
ES2324262-007	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	90.0	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	89.4	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	90.9	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	79.2	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	86.7	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	93.9	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	91.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	100	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	83.4	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	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: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AC**	Page	: 1 of 11
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5190999)									
ES2324262-010	Anonymous	EA055: Moisture Content	----	0.1	%	26.8	26.4	1.7	0% - 20%
ES2324262-042	Anonymous	EA055: Moisture Content	----	0.1	%	18.9	23.0	19.6	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0013	0.0012	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0044	0.0044	0.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095) - continued									
ES2324262-007	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	0356_MW126_230718	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	0.22	0.20	7.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164)									
ES2324262-002	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

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: 5186164) - continued									
ES2324262-002	Anonymous	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
ES2324262-016	0356_MW126_230718	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: 5186164)									
ES2324262-002	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
ES2324262-016	0356_MW126_230718	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	0356_MW126_230718	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: 5186164)									
ES2324262-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	0356_MW126_230718	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method 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: 5186095)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.8	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.6	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.1	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.3	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.3	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	79.9	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.1	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.1	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.8	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.7	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	77.1	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	73.4	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)								

Sub-Matrix: **SOIL**

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: 5186095) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	82.1	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	103	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.8	69.2	143

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: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145

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: 5186164) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	85.2	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	85.8	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	87.5	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	127	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	78.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	82.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	99.5	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	95.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	100	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	105	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.7	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	93.2	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	89.3	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	128	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	77.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095) - continued							
ES2324262-007	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	90.0	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	89.4	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	90.9	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	79.2	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	86.7	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	93.9	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	91.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	100	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	83.4	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	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: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AD**	Page	: 1 of 7
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: 5186164)									
ES2324262-002	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
ES2324262-016	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	0.22	0.20	7.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164)									
ES2324262-002	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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164) - continued									
ES2324262-016	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: 5186164)									
ES2324262-002	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
ES2324262-016	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: 5186164)									
ES2324262-002	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

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: 5186164) - continued									
ES2324262-002	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
ES2324262-016	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: 5186164)									
ES2324262-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	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: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								

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: 5186164) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144

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: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145

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: 5186164) - continued							
ES2324262-003	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AE**	Page	: 1 of 7
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: 5186164)									
ES2324262-002	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
ES2324262-016	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	0.22	0.20	7.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164)									
ES2324262-002	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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164) - continued									
ES2324262-016	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: 5186164)									
ES2324262-002	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
ES2324262-016	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: 5186164)									
ES2324262-002	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

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: 5186164) - continued									
ES2324262-002	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
ES2324262-016	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: 5186164)									
ES2324262-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	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: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								

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: 5186164) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144

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: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145

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: 5186164) - continued							
ES2324262-003	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144

QUALITY CONTROL REPORT

Work Order	: **ES2324262-AF**	Page	: 1 of 15
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 21-Jul-2023
C-O-C number	: 54907	Issue Date	: 31-Jul-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
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]	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5190999)									
ES2324262-010	Anonymous	EA055: Moisture Content	----	0.1	%	26.8	26.4	1.7	0% - 20%
ES2324262-042	Anonymous	EA055: Moisture Content	----	0.1	%	18.9	23.0	19.6	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0013	0.0012	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2324262-033	0356_SD563_230719	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0044	0.0044	0.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186095) - continued									
ES2324262-007	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2324262-033	0356_SD563_230719	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186095)									
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	0356_SD563_230719	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory 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: 5186095)									
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2324262-033	0356_SD563_230719	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	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	0.22	0.20	7.9	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186167)									
ES2324262-027	0356_MW187S_230719	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
ES2324262-050	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5186167) - continued									
ES2324262-050	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186167)									
ES2324262-027	0356_MW187S_230719	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
ES2324262-050	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5186167) - continued									
ES2324262-050	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186164)									
ES2324262-002	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
ES2324262-016	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5186167)									
ES2324262-027	0356_MW187S_230719	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: 5186167) - continued									
ES2324262-027	0356_MW187S_230719	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
ES2324262-050	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: 5186164)									
ES2324262-002	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
ES2324262-016	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5186167)									

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: 5186167) - continued									
ES2324262-027	0356_MW187S_230719	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
ES2324262-050	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: 5186164)									
ES2324262-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-016	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.24	0.22	8.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 5186167)									
ES2324262-027	0356_MW187S_230719	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2324262-050	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.8	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.6	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.1	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.3	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.3	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	79.9	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.1	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.1	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.8	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	74.7	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	77.1	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	73.4	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	82.1	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	103	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.8	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186164)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	78.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	86.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	82.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186167)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	88.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	98.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	92.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	94.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	92.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	86.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	80.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.4	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	92.3	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	85.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186167)								

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: 5186167) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	95.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.5	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.5	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)								
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	82.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.7	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	73.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186167)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	77.1	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	79.5	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	90.2	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	108	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)								

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: 5186164) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	85.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	90.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	84.7	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186167)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 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	0.25 µg/L	92.2	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	123	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	112	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	85.2	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	85.8	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	87.5	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	127	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	78.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	82.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	99.5	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	95.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	100	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	105	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.7	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	93.2	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	89.3	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	128	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	77.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186095) - continued							
ES2324262-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	90.0	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	89.4	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	90.9	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	79.2	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	86.7	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	93.9	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186095)							
ES2324262-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	91.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	100	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	83.4	69.2	143

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: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	80.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	85.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	81.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	96.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5186167)							
ES2324262-028	0356_MW188D_230719	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	89.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	110	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	97.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	109	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	99.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	94.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	84.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.5	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: 5186164) - continued							
ES2324262-003	Anonymous	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	95.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	102	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5186167)							
ES2324262-028	0356_MW188D_230719	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	108	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	101	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	100	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	81.8	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	77.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5186167)							
ES2324262-028	0356_MW188D_230719	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	99.9	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	87.4	62.6	147

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: 5186167) - continued							
ES2324262-028	0356_MW188D_230719	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	112	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	108	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	97.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186164)							
ES2324262-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	93.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	110	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5186167)							
ES2324262-028	0356_MW188D_230719	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	85.7	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	88.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	106	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	83.4	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2324262**	Page	: 1 of 12
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 20-Jul-2023
Site	: 0356	Issue Date	: 31-Jul-2023
Sampler	: [redacted]	No. of samples received	: 66
Order number	: 60612562_8.1	No. of samples analysed	: 63

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: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2324156--022	Anonymous	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717, 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**----**	----	----	**24-Jul-2023**	31-Jul-2023	✓
HDPE Soil Jar (EA055) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718, 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**----**	----	----	**24-Jul-2023**	01-Aug-2023	✓
HDPE Soil Jar (EA055) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**----**	----	----	**24-Jul-2023**	02-Aug-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**24-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**24-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**24-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**24-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**24-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**24-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**24-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**24-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0356_SD114_230717, 0356_SD116_230717, 0356_SD555_230717, 0356_QC101_230717	**17-Jul-2023**	**24-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD002_230717, 0356_SD053_230717, 0356_SD065_230717, 0356_SD115_230717, 0356_SD003_230717, 0356_SD032_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD055_230718, 0356_QC104_230718	**18-Jul-2023**	**24-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	02-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD039_230718, 0356_SD052_230718, 0356_SD080_230718, 0356_SD040_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	03-Sep-2023	✓
HDPE Soil Jar (EP231X) 0356_SD046_230719, 0356_SD047_230719, 0356_SD539_230719, 0356_SD563_230719, 0356_SD004_230719, 0356_SD005_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	03-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

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) 0356_MW102_230717, 0356_MW109_230717, 0356_MW110_230717, 0356_MW114_230717, 0356_MW115_230717, 0356_MW118_230717, 0356_SW002_230717, 0356_SW026_230717, 0356_SW034_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**24-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW003_230717, 0356_SW032_230717, 0356_SW555_230717, 0356_QC100_230717, 0356_QC102_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**25-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC300_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW039_230718, 0356_MW126_230718, 0356_MW128_230718, 0356_SW035_230718, 0356_SW036_230718, 0356_MW139_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**24-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW028_230718, 0356_SW040_230718, 0356_QC103_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**25-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW056_230719, 0356_MW121_230719, 0356_MW124_230719, 0356_MW187D_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**24-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW187S_230719, 0356_MW188D_230719, 0356_MW188S_230719, 0356_SW064_230719, 0356_SW065_230719, 0356_SW553_230719, 0356_SW563_230719, 0356_OTH006_230719, 0356_SW004_230719, 0356_SW005_230719, 0356_QC105_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**25-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC302_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	15-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) 0356_MW102_230717, 0356_MW109_230717, 0356_MW110_230717, 0356_MW114_230717, 0356_MW115_230717, 0356_MW118_230717, 0356_SW002_230717, 0356_SW026_230717, 0356_SW034_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**24-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW003_230717, 0356_SW032_230717, 0356_SW555_230717, 0356_QC100_230717, 0356_QC102_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**25-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC300_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW039_230718, 0356_MW126_230718, 0356_MW128_230718, 0356_SW035_230718, 0356_SW036_230718, 0356_MW139_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**24-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW028_230718, 0356_SW040_230718, 0356_QC103_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**25-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW056_230719, 0356_MW121_230719, 0356_MW124_230719, 0356_MW187D_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**24-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW187S_230719, 0356_MW188D_230719, 0356_MW188S_230719, 0356_SW064_230719, 0356_SW065_230719, 0356_SW553_230719, 0356_SW563_230719, 0356_OTH006_230719, 0356_SW004_230719, 0356_SW005_230719, 0356_QC105_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**25-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC302_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	15-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) 0356_MW102_230717, 0356_MW109_230717, 0356_MW110_230717, 0356_MW114_230717, 0356_MW115_230717, 0356_MW118_230717, 0356_SW002_230717, 0356_SW026_230717, 0356_SW034_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**24-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW003_230717, 0356_SW032_230717, 0356_SW555_230717, 0356_QC100_230717, 0356_QC102_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**25-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC300_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW039_230718, 0356_MW126_230718, 0356_MW128_230718, 0356_SW035_230718, 0356_SW036_230718, 0356_MW139_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**24-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW028_230718, 0356_SW040_230718, 0356_QC103_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**25-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW056_230719, 0356_MW121_230719, 0356_MW124_230719, 0356_MW187D_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**24-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW187S_230719, 0356_MW188D_230719, 0356_MW188S_230719, 0356_SW064_230719, 0356_SW065_230719, 0356_SW553_230719, 0356_SW563_230719, 0356_OTH006_230719, 0356_SW004_230719, 0356_SW005_230719, 0356_QC105_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**25-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC302_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	15-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) 0356_MW102_230717, 0356_MW109_230717, 0356_MW110_230717, 0356_MW114_230717, 0356_MW115_230717, 0356_MW118_230717, 0356_SW002_230717, 0356_SW026_230717, 0356_SW034_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**24-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW003_230717, 0356_SW032_230717, 0356_SW555_230717, 0356_QC100_230717, 0356_QC102_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**25-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC300_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW039_230718, 0356_MW126_230718, 0356_MW128_230718, 0356_SW035_230718, 0356_SW036_230718, 0356_MW139_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**24-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW028_230718, 0356_SW040_230718, 0356_QC103_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**25-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW056_230719, 0356_MW121_230719, 0356_MW124_230719, 0356_MW187D_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**24-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW187S_230719, 0356_MW188D_230719, 0356_MW188S_230719, 0356_SW064_230719, 0356_SW065_230719, 0356_SW553_230719, 0356_SW563_230719, 0356_OTH006_230719, 0356_SW004_230719, 0356_SW005_230719, 0356_QC105_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**25-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC302_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	15-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) 0356_MW102_230717, 0356_MW109_230717, 0356_MW110_230717, 0356_MW114_230717, 0356_MW115_230717, 0356_MW118_230717, 0356_SW002_230717, 0356_SW026_230717, 0356_SW034_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**24-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW003_230717, 0356_SW032_230717, 0356_SW555_230717, 0356_QC100_230717, 0356_QC102_230717	**17-Jul-2023**	**21-Jul-2023**	13-Jan-2024	✓	**25-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC300_230717	**17-Jul-2023**	**25-Jul-2023**	13-Jan-2024	✓	**26-Jul-2023**	13-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW039_230718, 0356_MW126_230718, 0356_MW128_230718, 0356_SW035_230718, 0356_SW036_230718, 0356_MW139_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**24-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_SW028_230718, 0356_SW040_230718, 0356_QC103_230718	**18-Jul-2023**	**21-Jul-2023**	14-Jan-2024	✓	**25-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_230718	**18-Jul-2023**	**25-Jul-2023**	14-Jan-2024	✓	**26-Jul-2023**	14-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW056_230719, 0356_MW121_230719, 0356_MW124_230719, 0356_MW187D_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**24-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_MW187S_230719, 0356_MW188D_230719, 0356_MW188S_230719, 0356_SW064_230719, 0356_SW065_230719, 0356_SW553_230719, 0356_SW563_230719, 0356_OTH006_230719, 0356_SW004_230719, 0356_SW005_230719, 0356_QC105_230719	**19-Jul-2023**	**21-Jul-2023**	15-Jan-2024	✓	**25-Jul-2023**	15-Jan-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC302_230719	**19-Jul-2023**	**25-Jul-2023**	15-Jan-2024	✓	**26-Jul-2023**	15-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: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	5	42	**11.90**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	50	**12.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	50	**6.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	50	**6.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	50	**6.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2324262**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO BOX 73 HUNTER REGION MC HRMC NSW, AUSTRALIA 2310	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]@ALSGlobal.com
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0356_PFASOMP_23	Page	: 1 of 4
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 54907	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0356		
Sampler	: [redacted]		

Dates

Date Samples Received	: 20-Jul-2023 17:24	Issue Date	: 27-Jul-2023
Client Requested Due Date	: 27-Jul-2023	Scheduled Reporting Date	: **27-Jul-2023**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 2.4'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 66 / 63

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
- **This is a revised SRN to correct the timestamp on sample 0356_MW118_230717.**
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ES2324262-007	17-Jul-2023 12:12	0356_SD002_230717		✓	✓
ES2324262-008	17-Jul-2023 13:38	0356_SD053_230717		✓	✓
ES2324262-009	17-Jul-2023 11:50	0356_SD065_230717		✓	✓
ES2324262-010	17-Jul-2023 11:21	0356_SD115_230717		✓	✓
ES2324262-014	18-Jul-2023 09:12	0356_SD039_230718		✓	✓
ES2324262-018	18-Jul-2023 12:45	0356_SD052_230718		✓	✓
ES2324262-019	18-Jul-2023 11:56	0356_SD080_230718		✓	✓
ES2324262-030	19-Jul-2023 10:54	0356_SD046_230719		✓	✓
ES2324262-031	19-Jul-2023 09:48	0356_SD047_230719		✓	✓
ES2324262-032	19-Jul-2023 12:50	0356_SD539_230719		✓	✓
ES2324262-033	19-Jul-2023 13:26	0356_SD563_230719		✓	✓
ES2324262-039	17-Jul-2023 12:44	0356_SD003_230717		✓	✓
ES2324262-040	19-Jul-2023 14:45	0356_SD004_230719		✓	✓
ES2324262-041	19-Jul-2023 15:06	0356_SD005_230719		✓	✓
ES2324262-042	17-Jul-2023 13:18	0356_SD032_230717		✓	✓
ES2324262-043	18-Jul-2023 13:37	0356_SD040_230718		✓	✓
ES2324262-044	18-Jul-2023 09:51	0356_SD055_230718		✓	✓
ES2324262-045	17-Jul-2023 14:16	0356_SD114_230717		✓	✓
ES2324262-046	17-Jul-2023 12:27	0356_SD116_230717		✓	✓
ES2324262-047	17-Jul-2023 14:03	0356_SD555_230717		✓	✓
ES2324262-056	17-Jul-2023 12:44	0356_QC101_230717		✓	✓
ES2324262-059	18-Jul-2023 09:51	0356_QC104_230718		✓	✓
ES2324262-064	19-Jul-2023 09:48	0356_QC106_230719	✓		

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2324262-001	17-Jul-2023 11:48	0356_MW102_230717		✓
ES2324262-002	17-Jul-2023 10:53	0356_MW109_230717		✓
ES2324262-003	17-Jul-2023 11:04	0356_MW110_230717		✓
ES2324262-004	17-Jul-2023 10:37	0356_MW114_230717		✓
ES2324262-005	17-Jul-2023 10:28	0356_MW115_230717		✓
ES2324262-006	17-Jul-2023 10:03	0356_MW118_230717		✓
ES2324262-011	17-Jul-2023 12:10	0356_SW002_230717		✓
ES2324262-012	17-Jul-2023 13:37	0356_SW026_230717		✓
ES2324262-013	17-Jul-2023 11:39	0356_SW034_230717		✓
ES2324262-015	18-Jul-2023 09:11	0356_SW039_230718		✓
ES2324262-016	18-Jul-2023 11:57	0356_MW126_230718		✓
ES2324262-017	18-Jul-2023 12:45	0356_MW128_230718		✓
ES2324262-020	18-Jul-2023 12:40	0356_SW035_230718		✓
ES2324262-021	18-Jul-2023 11:55	0356_SW036_230718		✓
ES2324262-022	18-Jul-2023 10:34	0356_MW139_230718		✓
ES2324262-023	19-Jul-2023 13:48	0356_MW056_230719		✓
ES2324262-024	19-Jul-2023 13:02	0356_MW121_230719		✓
ES2324262-025	19-Jul-2023 11:05	0356_MW124_230719		✓
ES2324262-026	19-Jul-2023 10:11	0356_MW187D_230719		✓
ES2324262-027	19-Jul-2023 10:07	0356_MW187S_230719		✓
ES2324262-028	19-Jul-2023 16:00	0356_MW188D_230719		✓
ES2324262-029	19-Jul-2023 11:32	0356_MW188S_230719		✓
ES2324262-034	19-Jul-2023 10:52	0356_SW064_230719		✓
ES2324262-035	19-Jul-2023 09:46	0356_SW065_230719		✓
ES2324262-036	19-Jul-2023 12:48	0356_SW553_230719		✓
ES2324262-037	19-Jul-2023 13:29	0356_SW563_230719		✓
ES2324262-038	19-Jul-2023 12:33	0356_OTH006_230719		✓
ES2324262-048	17-Jul-2023 12:45	0356_SW003_230717		✓
ES2324262-049	19-Jul-2023 14:46	0356_SW004_230719		✓
ES2324262-050	19-Jul-2023 15:05	0356_SW005_230719		✓
ES2324262-051	18-Jul-2023 09:49	0356_SW028_230718		✓
ES2324262-052	17-Jul-2023 13:15	0356_SW032_230717		✓
ES2324262-053	18-Jul-2023 13:34	0356_SW040_230718		✓
ES2324262-054	17-Jul-2023 14:01	0356_SW555_230717		✓
ES2324262-055	17-Jul-2023 10:03	0356_QC100_230717		✓
ES2324262-057	17-Jul-2023 12:45	0356_QC102_230717		✓
ES2324262-058	18-Jul-2023 09:49	0356_QC103_230718		✓
ES2324262-060	19-Jul-2023 09:46	0356_QC105_230719		✓
ES2324262-061	17-Jul-2023 14:32	0356_QC300_230717		✓
ES2324262-062	18-Jul-2023 13:41	0356_QC301_230718		✓
ES2324262-063	19-Jul-2023 15:38	0356_QC302_230719		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2324262-065	19-Jul-2023 10:11	0356_QC107_230719	✓	
ES2324262-066	19-Jul-2023 11:05	0356_QC108_230719	✓	

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ENMRG (ENMRG) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ENMRG (ENMRG) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- EDI Format - XTab (XTAB) — Email [redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS) — Email [redacted]

ALSCompass
SAMPLING *Intelligence*

ALS

E-MAILED
LAB OF ORIGIN:
NEWCASTLE

Environmental Division
Sydney
Work Order Reference
ES2324262

Telephone : +61-2-8784 8555

Custody Document for Submissions via ALS Compass App

Project: 60612562 **Client:** AECOM **Project Manager:** [redacted]
Phone:

ALS Compass COC Reference: 54907 **# Samples:** **Sampler:** [redacted]
Phone:

Turnaround Requirements: Standard / Urgent

Special Instructions:	ALS Use Only
	Custody seal intact? YES NO N/A
	Free ice / frozen ice bricks upon receipt? YES NO N/A
	Random sample temperature on receipt? 2.4°C

Custody:

Relinquished by:	**Received by:**	**Relinquished by:**	**Received by:**
[redacted]		JW 20.7.23	AJS
Date / Time: 19.7.23 @ 5:20pm	**Date / Time:** 19.7.23 1724	**Date / Time:** 1706	**Date / Time:** 20/7/23 1935 2.4°C

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_MW102_230717		17/07/2023 11:48 AM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0356_MW109_230717		17/07/2023 10:53 AM	WATER	ALS: 4 Non ALS: 0	No		X		
003	0356_MW110_230717		17/07/2023 11:04 AM	WATER	ALS: 4 Non ALS: 0	No		X		
004	0356_MW114_230717		17/07/2023 10:37 AM	WATER	ALS: 4 Non ALS: 0	No		X		
005	0356_MW115_230717		17/07/2023 10:28 AM	WATER	ALS: 4 Non ALS: 0	No		X		
006	0356_MW118_230717		17/07/2023 11:03 AM	WATER	ALS: 4 Non ALS: 0	No		X		
007	0356_SD002_230717		17/07/2023 12:12 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
008	0356_SD053_230717		17/07/2023 01:38 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
009	0356_SD065_230717		17/07/2023 11:50 AM	SOIL	ALS: 1 Non ALS: 0	No	X			

LAB OF ORIGIN: NEWCASTLE

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/4/23 1435	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 24 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0356_SD115_230717		17/07/2023 11:21 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
011	0356_SW002_230717		17/07/2023 12:10 PM	WATER	ALS: 4 Non ALS: 0	No		X		
012	0356_SW026_230717		17/07/2023 01:37 PM	WATER	ALS: 4 Non ALS: 0	No		X		
013	0356_SW034_230717		17/07/2023 11:39 AM	WATER	ALS: 4 Non ALS: 0	No		X		
014	0356_SD039_230718		18/07/2023 09:12 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
015	0356_SW039_230718		18/07/2023 09:11 AM	WATER	ALS: 4 Non ALS: 0	No		X		
016	0356_MW126_230718		18/07/2023 11:57 AM	WATER	ALS: 4 Non ALS: 0	No		X		
017	0356_MW128_230718		18/07/2023 12:45 PM	WATER	ALS: 4 Non ALS: 0	No		X		
018	0356_SD052_230718		18/07/2023 12:45 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

E-MAILED

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 24 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0356_SD080_230718		18/07/2023 11:56 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
020	0356_SW035_230718		18/07/2023 12:40 PM	WATER	ALS: 4 Non ALS: 0	No		X		
021	0356_SW036_230718		18/07/2023 11:55 AM	WATER	ALS: 4 Non ALS: 0	No		X		
022	0356_MW139_230718		18/07/2023 10:34 AM	WATER	ALS: 4 Non ALS: 0	No		X		
023	0356_MW056_230719		19/07/2023 01:48 PM	WATER	ALS: 4 Non ALS: 0	No		X		
024	0356_MW121_230719		19/07/2023 01:02 PM	WATER	ALS: 4 Non ALS: 0	No		X		
025	0356_MW124_230719		19/07/2023 11:05 AM	WATER	ALS: 4 Non ALS: 0	No		X		
026	0356_MW187D_230719		19/07/2023 10:11 AM	WATER	ALS: 4 Non ALS: 0	No		X		
027	0356_MW187S_230719		19/07/2023 10:07 AM	WATER	ALS: 4 Non ALS: 0	No		X		

E-MAILED

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: Sophie Mo AM 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0356_MW188D_230719		19/07/2023 04:00 PM	WATER	ALS: 4 Non ALS: 0	No		X		
029	0356_MW188S_230719		19/07/2023 11:32 AM	WATER	ALS: 4 Non ALS: 0	No		X		
030	0356_SD046_230719		19/07/2023 10:54 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
031	0356_SD047_230719		19/07/2023 09:48 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
032	0356_SD539_230719		19/07/2023 12:50 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
033	0356_SD563_230719		19/07/2023 01:26 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
034	0356_SW064_230719		19/07/2023 10:52 AM	WATER	ALS: 4 Non ALS: 0	No		X		
035	0356_SW065_230719		19/07/2023 09:46 AM	WATER	ALS: 4 Non ALS: 0	No		X		
036	0356_SW553_230719		19/07/2023 12:48 PM	WATER	ALS: 4 Non ALS: 0	No		X		

E-MAILED

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 2017/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0356_SW563_230719		19/07/2023 01:29 PM	WATER	ALS: 4 Non ALS: 0	No		X		
038	0356_OTH006_230719		19/07/2023 12:33 PM	WATER	ALS: 4 Non ALS: 0	No		X		
039	0356_SD003_230717		17/07/2023 12:44 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
040	0356_SD004_230719		19/07/2023 02:45 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
041	0356_SD005_230719		19/07/2023 03:06 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
042	0356_SD032_230717		17/07/2023 01:18 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
043	0356_SD040_230718		18/07/2023 01:37 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
044	0356_SD055_230718		18/07/2023 09:51 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
045	0356_SD114_230717		17/07/2023 02:16 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

E-MAILED

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	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: 24

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0356_SD116_230717		17/07/2023 12:27 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
047	0356_SD555_230717		17/07/2023 02:03 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
048	0356_SW003_230717		17/07/2023 12:45 PM	WATER	ALS: 4 Non ALS: 0	No		X		
049	0356_SW004_230719		19/07/2023 02:46 PM	WATER	ALS: 4 Non ALS: 0	No		X		
050	0356_SW005_230719		19/07/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No		X		
051	0356_SW028_230718		18/07/2023 09:49 AM	WATER	ALS: 4 Non ALS: 0	No		X		
052	0356_SW032_230717		17/07/2023 01:15 PM	WATER	ALS: 4 Non ALS: 0	No		X		
053	0356_SW040_230718		18/07/2023 01:34 PM	WATER	ALS: 4 Non ALS: 0	No		X		
054	0356_SW555_230717		17/07/2023 02:01 PM	WATER	ALS: 4 Non ALS: 0	No		X		

E-MAILED

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0356_QC100_230717		17/07/2023 10:03 AM	WATER	ALS: 4 Non ALS: 0	No		X		
056	0356_QC101_230717		17/07/2023 12:44 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
057	0356_QC102_230717		17/07/2023 12:45 PM	WATER	ALS: 4 Non ALS: 0	No		X		
058	0356_QC103_230718		18/07/2023 09:49 AM	WATER	ALS: 4 Non ALS: 0	No		X		
059	0356_QC104_230718		18/07/2023 09:51 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
060	0356_QC105_230719		19/07/2023 09:46 AM	WATER	ALS: 4 Non ALS: 0	No		X		
061	0356_QC300_230717		17/07/2023 02:32 PM	WATER	ALS: 4 Non ALS: 0	No		X		
062	0356_QC301_230718		18/07/2023 01:41 PM	WATER	ALS: 4 Non ALS: 0	No		X		
063	0356_QC302_230719		19/07/2023 03:38 PM	WATER	ALS: 4 Non ALS: 0	No		X		

E-MAILED

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0356_QC106_230719		19/07/2023 09:48 AM	SOIL	ALS: 1 Non ALS: 0	Yes	-			
065	0356_QC107_230719		19/07/2023 10:11 AM	WATER	ALS: 4 Non ALS: 0	Yes		-		
066	0356_QC108_230719		19/07/2023 11:05 AM	WATER	ALS: 4 Non ALS: 0	Yes		-		

E-MAILED

CHAIN OF CUSTODY

ALS COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: Scott Lyon AU 2017/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

E-MAILED

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0356_MW102_230717	HDPE (no PTFE)	20 mL	00352101040706	Grey	No	
001	0356_MW102_230717	HDPE (no PTFE)	20 mL	00352101040440	Grey	No	
001	0356_MW102_230717	HDPE (no PTFE)	20 mL	00350621036836	Grey	No	
001	0356_MW102_230717	HDPE (no PTFE)	20 mL	00350621036812	Grey	No	
002	0356_MW109_230717	HDPE (no PTFE)	20 mL	00352101060007	Grey	No	
002	0356_MW109_230717	HDPE (no PTFE)	20 mL	00350621036913	Grey	No	
002	0356_MW109_230717	HDPE (no PTFE)	20 mL	00350621036895	Grey	No	
002	0356_MW109_230717	HDPE (no PTFE)	20 mL	00352101040491	Grey	No	
003	0356_MW110_230717	HDPE (no PTFE)	20 mL	00352101040233	Grey	No	
003	0356_MW110_230717	HDPE (no PTFE)	20 mL	00352101040617	Grey	No	
003	0356_MW110_230717	HDPE (no PTFE)	20 mL	00352101040344	Grey	No	
003	0356_MW110_230717	HDPE (no PTFE)	20 mL	00352101040283	Grey	No	
004	0356_MW114_230717	HDPE (no PTFE)	20 mL	00350621036997	Grey	No	
004	0356_MW114_230717	HDPE (no PTFE)	20 mL	00350621036900	Grey	No	
004	0356_MW114_230717	HDPE (no PTFE)	20 mL	00350621036530	Grey	No	
004	0356_MW114_230717	HDPE (no PTFE)	20 mL	00350621036873	Grey	No	
005	0356_MW115_230717	HDPE (no PTFE)	20 mL	00350621036978	Grey	No	
005	0356_MW115_230717	HDPE (no PTFE)	20 mL	00350621036512	Grey	No	
005	0356_MW115_230717	HDPE (no PTFE)	20 mL	00350621001346	Grey	No	
005	0356_MW115_230717	HDPE (no PTFE)	20 mL	00350621001803	Grey	No	
006	0356_MW118_230717	HDPE (no PTFE)	20 mL	00352101040646	Grey	No	
006	0356_MW118_230717	HDPE (no PTFE)	20 mL	00352101040621	Grey	No	
006	0356_MW118_230717	HDPE (no PTFE)	20 mL	00352101040608	Grey	No	
006	0356_MW118_230717	HDPE (no PTFE)	20 mL	00352101040365	Grey	No	
007	0356_SD002_230717	HDPE Soil Jar	200 mL	00620322030527	Grey	No	
008	0356_SD053_230717	HDPE Soil Jar	200 mL	00620322030478	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 24 °C

Other comments:

E-MAILED

009	0356_SD065_230717	HDPE Soil Jar	200 mL	00620322030555	Grey	No	
010	0356_SD115_230717	HDPE Soil Jar	200 mL	00620322030509	Grey	No	
011	0356_SW002_230717	HDPE (no PTFE)	20 mL	00352101040397	Grey	No	
011	0356_SW002_230717	HDPE (no PTFE)	20 mL	00352101040520	Grey	No	
011	0356_SW002_230717	HDPE (no PTFE)	20 mL	00352101040264	Grey	No	
011	0356_SW002_230717	HDPE (no PTFE)	20 mL	00352101040238	Grey	No	
012	0356_SW026_230717	HDPE (no PTFE)	20 mL	00352101040494	Grey	No	
012	0356_SW026_230717	HDPE (no PTFE)	20 mL	00352101040335	Grey	No	
012	0356_SW026_230717	HDPE (no PTFE)	20 mL	00352101040384	Grey	No	
012	0356_SW026_230717	HDPE (no PTFE)	20 mL	00352101040757	Grey	No	
013	0356_SW034_230717	HDPE (no PTFE)	20 mL	00352101040628	Grey	No	
013	0356_SW034_230717	HDPE (no PTFE)	20 mL	00352101040610	Grey	No	
013	0356_SW034_230717	HDPE (no PTFE)	20 mL	00352101040611	Grey	No	
013	0356_SW034_230717	HDPE (no PTFE)	20 mL	00352101040489	Grey	No	
014	0356_SD039_230718	HDPE Soil Jar	200 mL	00620322030491	Grey	No	
015	0356_SW039_230718	HDPE (no PTFE)	20 mL	00352101040775	Grey	No	
015	0356_SW039_230718	HDPE (no PTFE)	20 mL	00350621036881	Grey	No	
015	0356_SW039_230718	HDPE (no PTFE)	20 mL	00352101040645	Grey	No	
015	0356_SW039_230718	HDPE (no PTFE)	20 mL	00350621036597	Grey	No	
016	0356_MW126_230718	HDPE (no PTFE)	20 mL	00350822025614	Grey	No	
016	0356_MW126_230718	HDPE (no PTFE)	20 mL	00350822025549	Grey	No	
016	0356_MW126_230718	HDPE (no PTFE)	20 mL	00350822025872	Grey	No	
016	0356_MW126_230718	HDPE (no PTFE)	20 mL	00350822025562	Grey	No	
017	0356_MW128_230718	HDPE (no PTFE)	20 mL	00350822025702	Grey	No	
017	0356_MW128_230718	HDPE (no PTFE)	20 mL	00350822026094	Grey	No	
017	0356_MW128_230718	HDPE (no PTFE)	20 mL	00350822026108	Grey	No	
017	0356_MW128_230718	HDPE (no PTFE)	20 mL	00350822026132	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

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: 2.4 °C

Other comments:

E-MAILED

018	0356_SD052_230718	HDPE Soil Jar	200 mL	00620322030560	Grey	No	
019	0356_SD080_230718	HDPE Soil Jar	200 mL	00620322030503	Grey	No	
020	0356_SW035_230718	HDPE (no PTFE)	20 mL	00350822025592	Grey	No	
020	0356_SW035_230718	HDPE (no PTFE)	20 mL	00350822025873	Grey	No	
020	0356_SW035_230718	HDPE (no PTFE)	20 mL	00350822025754	Grey	No	
020	0356_SW035_230718	HDPE (no PTFE)	20 mL	00350822025728	Grey	No	
021	0356_SW036_230718	HDPE (no PTFE)	20 mL	00350822025590	Grey	No	
021	0356_SW036_230718	HDPE (no PTFE)	20 mL	00350822026067	Grey	No	
021	0356_SW036_230718	HDPE (no PTFE)	20 mL	00350822025747	Grey	No	
021	0356_SW036_230718	HDPE (no PTFE)	20 mL	00350822025700	Grey	No	
022	0356_MW139_230718	HDPE (no PTFE)	20 mL	00352010048036	Grey	No	
022	0356_MW139_230718	HDPE (no PTFE)	20 mL	00352101040342	Grey	No	
022	0356_MW139_230718	HDPE (no PTFE)	20 mL	00352010048143	Grey	No	
022	0356_MW139_230718	HDPE (no PTFE)	20 mL	00352101040239	Grey	No	
023	0356_MW056_230719	HDPE (no PTFE)	20 mL	00352101040521	Grey	No	
023	0356_MW056_230719	HDPE (no PTFE)	20 mL	00352101040372	Grey	No	
023	0356_MW056_230719	HDPE (no PTFE)	20 mL	00350621036655	Grey	No	
023	0356_MW056_230719	HDPE (no PTFE)	20 mL	00350621036972	Grey	No	
024	0356_MW121_230719	HDPE (no PTFE)	20 mL	00350621032067	Grey	No	
024	0356_MW121_230719	HDPE (no PTFE)	20 mL	00352101040595	Grey	No	
024	0356_MW121_230719	HDPE (no PTFE)	20 mL	00350621032028	Grey	No	
024	0356_MW121_230719	HDPE (no PTFE)	20 mL	00352101040572	Grey	No	
025	0356_MW124_230719	HDPE (no PTFE)	20 mL	00350822025685	Grey	No	
025	0356_MW124_230719	HDPE (no PTFE)	20 mL	00350822025854	Grey	No	
025	0356_MW124_230719	HDPE (no PTFE)	20 mL	00350822025757	Grey	No	
025	0356_MW124_230719	HDPE (no PTFE)	20 mL	00350822025622	Grey	No	
026	0356_MW187D_230719	HDPE (no PTFE)	20 mL	00350822025604	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

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: 2.4 °C

Other comments:

E-MAILED

026	0356_MW187D_230719	HDPE (no PTFE)	20 mL	00350822025738	Grey	No	
026	0356_MW187D_230719	HDPE (no PTFE)	20 mL	00350822025985	Grey	No	
026	0356_MW187D_230719	HDPE (no PTFE)	20 mL	00350822025586	Grey	No	
027	0356_MW187S_230719	HDPE (no PTFE)	20 mL	00350822025643	Grey	No	
027	0356_MW187S_230719	HDPE (no PTFE)	20 mL	00350822026042	Grey	No	
027	0356_MW187S_230719	HDPE (no PTFE)	20 mL	00350822025892	Grey	No	
027	0356_MW187S_230719	HDPE (no PTFE)	20 mL	00350822025635	Grey	No	
028	0356_MW188D_230719	HDPE (no PTFE)	20 mL	00352101040663	Grey	No	
028	0356_MW188D_230719	HDPE (no PTFE)	20 mL	00350621036332	Grey	No	
028	0356_MW188D_230719	HDPE (no PTFE)	20 mL	00350621057777	Grey	No	
028	0356_MW188D_230719	HDPE (no PTFE)	20 mL	00352101060004	Grey	No	
029	0356_MW188S_230719	HDPE (no PTFE)	20 mL	00350822025649	Grey	No	
029	0356_MW188S_230719	HDPE (no PTFE)	20 mL	00350822025582	Grey	No	
029	0356_MW188S_230719	HDPE (no PTFE)	20 mL	00350822025911	Grey	No	
029	0356_MW188S_230719	HDPE (no PTFE)	20 mL	00350822025588	Grey	No	
030	0356_SD046_230719	HDPE Soil Jar	200 mL	00620322030449	Grey	No	
031	0356_SD047_230719	HDPE Soil Jar	200 mL	00620322030546	Grey	No	
032	0356_SD539_230719	HDPE Soil Jar	200 mL	00620322030557	Grey	No	
033	0356_SD563_230719	HDPE Soil Jar	200 mL	00620322030524	Grey	No	
034	0356_SW064_230719	HDPE (no PTFE)	20 mL	00350822025856	Grey	No	
034	0356_SW064_230719	HDPE (no PTFE)	20 mL	00350822025862	Grey	No	
034	0356_SW064_230719	HDPE (no PTFE)	20 mL	00350822025638	Grey	No	
034	0356_SW064_230719	HDPE (no PTFE)	20 mL	00350822025575	Grey	No	
035	0356_SW065_230719	HDPE (no PTFE)	20 mL	00350822025676	Grey	No	
035	0356_SW065_230719	HDPE (no PTFE)	20 mL	00350822026077	Grey	No	
035	0356_SW065_230719	HDPE (no PTFE)	20 mL	00350822026044	Grey	No	
035	0356_SW065_230719	HDPE (no PTFE)	20 mL	00350822025996	Grey	No	

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	SwsStella Ay DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

E-MAILED

036	0356_SW553_230719	HDPE (no PTFE)	20 mL	00352101040290	Grey	No	
036	0356_SW553_230719	HDPE (no PTFE)	20 mL	00352101040334	Grey	No	
036	0356_SW553_230719	HDPE (no PTFE)	20 mL	00352101040531	Grey	No	
036	0356_SW553_230719	HDPE (no PTFE)	20 mL	00352101040302	Grey	No	
037	0356_SW563_230719	HDPE (no PTFE)	20 mL	00352101040774	Grey	No	
037	0356_SW563_230719	HDPE (no PTFE)	20 mL	00352101040461	Grey	No	
037	0356_SW563_230719	HDPE (no PTFE)	20 mL	00352101040256	Grey	No	
037	0356_SW563_230719	HDPE (no PTFE)	20 mL	00352101040600	Grey	No	
038	0356_OTH006_230719	HDPE (no PTFE)	20 mL	00352101040299	Grey	No	
038	0356_OTH006_230719	HDPE (no PTFE)	20 mL	00352101040279	Grey	No	
038	0356_OTH006_230719	HDPE (no PTFE)	20 mL	00350621036509	Grey	No	
038	0356_OTH006_230719	HDPE (no PTFE)	20 mL	00350621037018	Grey	No	
039	0356_SD003_230717	HDPE Soil Jar	200 mL	00620322030571	Grey	No	
040	0356_SD004_230719	HDPE Soil Jar	200 mL	00620322030483	Grey	No	
041	0356_SD005_230719	HDPE Soil Jar	200 mL	00620322030538	Grey	No	
042	0356_SD032_230717	HDPE Soil Jar	200 mL	00620322030570	Grey	No	
043	0356_SD040_230718	HDPE Soil Jar	200 mL	00620322030444	Grey	No	
044	0356_SD055_230718	HDPE Soil Jar	200 mL	00620322030481	Grey	No	
045	0356_SD114_230717	HDPE Soil Jar	200 mL	00620322030543	Grey	No	
046	0356_SD116_230717	HDPE Soil Jar	200 mL	00620322030562	Grey	No	
047	0356_SD555_230717	HDPE Soil Jar	200 mL	00620322030505	Grey	No	
048	0356_SW003_230717	HDPE (no PTFE)	20 mL	00352101040466	Grey	No	
048	0356_SW003_230717	HDPE (no PTFE)	20 mL	00352101040547	Grey	No	
048	0356_SW003_230717	HDPE (no PTFE)	20 mL	00352101040742	Grey	No	
048	0356_SW003_230717	HDPE (no PTFE)	20 mL	00352101040328	Grey	No	
049	0356_SW004_230719	HDPE (no PTFE)	20 mL	00352101040767	Grey	No	
049	0356_SW004_230719	HDPE (no PTFE)	20 mL	00352101040501	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 2.4 °C

Other comments:

E-MAILED

049	0356_SW004_230719	HDPE (no PTFE)	20 mL	00352101040644	Grey	No	
049	0356_SW004_230719	HDPE (no PTFE)	20 mL	00352101040385	Grey	No	
050	0356_SW005_230719	HDPE (no PTFE)	20 mL	00350621001581	Grey	No	
050	0356_SW005_230719	HDPE (no PTFE)	20 mL	00352101040460	Grey	No	
050	0356_SW005_230719	HDPE (no PTFE)	20 mL	00352101040403	Grey	No	
050	0356_SW005_230719	HDPE (no PTFE)	20 mL	00350621001281	Grey	No	
051	0356_SW028_230718	HDPE (no PTFE)	20 mL	00352101040329	Grey	No	
051	0356_SW028_230718	HDPE (no PTFE)	20 mL	00352101040457	Grey	No	
051	0356_SW028_230718	HDPE (no PTFE)	20 mL	00352101040612	Grey	No	
051	0356_SW028_230718	HDPE (no PTFE)	20 mL	00352101040737	Grey	No	
052	0356_SW032_230717	HDPE (no PTFE)	20 mL	00350621036558	Grey	No	
052	0356_SW032_230717	HDPE (no PTFE)	20 mL	00352101040591	Grey	No	
052	0356_SW032_230717	HDPE (no PTFE)	20 mL	00350621036656	Grey	No	
052	0356_SW032_230717	HDPE (no PTFE)	20 mL	00352101040786	Grey	No	
053	0356_SW040_230718	HDPE (no PTFE)	20 mL	00350822025979	Grey	No	
053	0356_SW040_230718	HDPE (no PTFE)	20 mL	00350822026091	Grey	No	
053	0356_SW040_230718	HDPE (no PTFE)	20 mL	00350822025950	Grey	No	
053	0356_SW040_230718	HDPE (no PTFE)	20 mL	00350822025701	Grey	No	
054	0356_SW555_230717	HDPE (no PTFE)	20 mL	00350821042704	Grey	No	
054	0356_SW555_230717	HDPE (no PTFE)	20 mL	00352101040785	Grey	No	
054	0356_SW555_230717	HDPE (no PTFE)	20 mL	00352101040526	Grey	No	
054	0356_SW555_230717	HDPE (no PTFE)	20 mL	00350821042874	Grey	No	
055	0356_QC100_230717	HDPE (no PTFE)	20 mL	00352101040513	Grey	No	
055	0356_QC100_230717	HDPE (no PTFE)	20 mL	00350621036889	Grey	No	
055	0356_QC100_230717	HDPE (no PTFE)	20 mL	00352101040266	Grey	No	
055	0356_QC100_230717	HDPE (no PTFE)	20 mL	00350621036927	Grey	No	
056	0356_QC101_230717	HDPE Soil Jar	200 mL	00620322030460	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 54907 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 20/7/23 1935	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: 2.4 °C

Other comments:

E-MAILED

057	0356_QC102_230717	HDPE (no PTFE)	20 mL	00352101040371	Grey	No	
057	0356_QC102_230717	HDPE (no PTFE)	20 mL	00352101040253	Grey	No	
057	0356_QC102_230717	HDPE (no PTFE)	20 mL	00352101040447	Grey	No	
057	0356_QC102_230717	HDPE (no PTFE)	20 mL	00352101040738	Grey	No	
058	0356_QC103_230718	HDPE (no PTFE)	20 mL	00352101040463	Grey	No	
058	0356_QC103_230718	HDPE (no PTFE)	20 mL	00352101040650	Grey	No	
058	0356_QC103_230718	HDPE (no PTFE)	20 mL	00352101040455	Grey	No	
058	0356_QC103_230718	HDPE (no PTFE)	20 mL	00352101040479	Grey	No	
059	0356_QC104_230718	HDPE Soil Jar	200 mL	00620322030458	Grey	No	
060	0356_QC105_230719	HDPE (no PTFE)	20 mL	00350822026100	Grey	No	
060	0356_QC105_230719	HDPE (no PTFE)	20 mL	00350822025655	Grey	No	
060	0356_QC105_230719	HDPE (no PTFE)	20 mL	00350822026035	Grey	No	
060	0356_QC105_230719	HDPE (no PTFE)	20 mL	00350822026118	Grey	No	
061	0356_QC300_230717	HDPE (no PTFE)	20 mL	00350822025712	Grey	No	
061	0356_QC300_230717	HDPE (no PTFE)	20 mL	00350822026047	Grey	No	
061	0356_QC300_230717	HDPE (no PTFE)	20 mL	00350822026127	Grey	No	
061	0356_QC300_230717	HDPE (no PTFE)	20 mL	00350822025601	Grey	No	
062	0356_QC301_230718	HDPE (no PTFE)	20 mL	00350822025689	Grey	No	
062	0356_QC301_230718	HDPE (no PTFE)	20 mL	00350822026062	Grey	No	
062	0356_QC301_230718	HDPE (no PTFE)	20 mL	00350822025600	Grey	No	
062	0356_QC301_230718	HDPE (no PTFE)	20 mL	00350822025916	Grey	No	
063	0356_QC302_230719	HDPE (no PTFE)	20 mL	00350621036977	Grey	No	
063	0356_QC302_230719	HDPE (no PTFE)	20 mL	00352101040311	Grey	No	
063	0356_QC302_230719	HDPE (no PTFE)	20 mL	00352101040265	Grey	No	
063	0356_QC302_230719	HDPE (no PTFE)	20 mL	00350621036437	Grey	No	
064	0356_QC106_230719	HDPE Soil Jar	200 mL	00620322030514	Grey	No	
065	0356_QC107_230719	HDPE (no PTFE)	20 mL	00350822025571	Grey	No	

CHAIN OF CUSTODY

COC#: **54907** *ALS Laboratory:* ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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:

E-MAILED

065	0356_QC107_230719	HDPE (no PTFE)	20 mL	00350822025829	Grey	No	
065	0356_QC107_230719	HDPE (no PTFE)	20 mL	00350822025959	Grey	No	
065	0356_QC107_230719	HDPE (no PTFE)	20 mL	00350822025867	Grey	No	
066	0356_QC108_230719	HDPE (no PTFE)	20 mL	00350822025677	Grey	No	
066	0356_QC108_230719	HDPE (no PTFE)	20 mL	00350822025991	Grey	No	
066	0356_QC108_230719	HDPE (no PTFE)	20 mL	00350822025776	Grey	No	
066	0356_QC108_230719	HDPE (no PTFE)	20 mL	00350822025564	Grey	No	

Total Bottle Count: ALS: 195, Non ALS: 0

CERTIFICATE OF ANALYSIS

Work Order	: **ES2336797**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023 14:30
Order number	: 60612562_8.1	Date Analysis Commenced	: 26-Oct-2023
C-O-C number	: 59192	Issue Date	: 01-Nov-2023 15:50
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_231025 1125	0356_QC101_231025	0356_MW056_231025 1200	----	----
				Sampling date / time	25-Oct-2023 11:25	25-Oct-2023 11:25	25-Oct-2023 12:00	----	----
Compound	CAS Number	LOR	Unit		ES2336797-001	ES2336797-002	ES2336797-003	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.03**	**0.03**	**0.04**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.09**	**0.10**	**0.06**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_231025 1125	0356_QC101_231025	0356_MW056_231025 1200	----	----
				Sampling date / time	25-Oct-2023 11:25	25-Oct-2023 11:25	25-Oct-2023 12:00	----	----
Compound	CAS Number	LOR	Unit		ES2336797-001	ES2336797-002	ES2336797-003	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.12**	**0.13**	**0.10**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.12**	**0.13**	**0.10**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.12**	**0.13**	**0.10**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.5**	**100**	**100**	----	----
13C8-PFOA	----	0.02	%		**89.9**	**92.9**	**90.9**	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2336797**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 26-Oct-2023
C-O-C number	: 59192	Issue Date	: 01-Nov-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: 5392759)									
ES2336679-014	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.36	0.37	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.11	2.08	1.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.04	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2336903-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5392759)									
ES2336679-014	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.39	0.41	5.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.26	0.26	0.0	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.37	0.37	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.78	0.79	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.24	0.24	0.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5392759) - continued									
ES2336903-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5392759)									
ES2336679-014	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
ES2336903-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5392759)									
ES2336679-014	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: 5392759) - continued									
ES2336679-014	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
ES2336903-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5392759)									
ES2336679-014	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	4.64	4.66	0.4	0% - 20%
ES2336903-001	Anonymous	EP231X: Sum of PFAS	----	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: 5392759)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	93.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	87.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	94.2	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	99.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	98.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5392759)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	115	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5392759)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	107	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.1	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5392759)								

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: 5392759) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	103	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	114	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	108	71.4	144

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	: **ES2336797**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023
Site	: 0356	Issue Date	: 01-Nov-2023
Sampler	: [redacted]	No. of samples received	: 3
Order number	: 60612562_8.1	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
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			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0356_MW056_2310251125, 0356_MW056_2310251200	0356_QC101_231025,	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0356_MW056_2310251125, 0356_MW056_2310251200	0356_QC101_231025,	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0356_MW056_2310251125, 0356_MW056_2310251200	0356_QC101_231025,	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0356_MW056_2310251125, 0356_MW056_2310251200	0356_QC101_231025,	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0356_MW056_2310251125, 0356_MW056_2310251200	0356_QC101_231025,	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	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 : **ES2336797**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]@ALSGlobal.com
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0356_PFASOMP_23	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 59192	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0356		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Oct-2023 14:30	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 01-Nov-2023	Scheduled Reporting Date	: **01-Nov-2023**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **(27/10/2023) This is an updated SRN which reflects a change in ID and sampling time for sample 002.**
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

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.

ES2336797-001 : 25-Oct-2023 11:25 : 0356_MW056_2310251125
ES2336797-003 : 25-Oct-2023 12:00 : 0356_MW056_2310251200

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)
ES2336797-001	25-Oct-2023 11:25	0356_MW056_2310251125	✓
ES2336797-002	25-Oct-2023 11:25	0356_QC101_231025	✓
ES2336797-003	25-Oct-2023 12:00	0356_MW056_2310251200	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- EDI Format - XTab (XTAB)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- A4 - AU Tax Invoice (INV)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ENMRG (ENMRG)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ENMRG (ENMRG)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- EDI Format - XTab (XTAB)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

ALSCompass SAMPLING Intelligence

Environmental Division
Sydney
Work Order Reference
ES2336797

Telephone : +61-2-8784 8555

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: 60612562_8.1 **Client:** AECOM **Project Manager:** [redacted]

Phone:

ALS Compass COC Reference: ~~59195~~ 59192 **# Samples:** ~~3~~ 3 **Sampler:**

Phone:

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?	6.0 °C		

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
[redacted]	JN 25.10.23		
Date / Time: 25-10-23 1430	Date / Time: 1430	Date / Time: 25-10-23 5pm	Date / Time: 25/10/23 1925

CERTIFICATE OF ANALYSIS

Work Order	: **ES2336799**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023 14:30
Order number	: 60612562_8.1	Date Analysis Commenced	: 26-Oct-2023
C-O-C number	: 59195	Issue Date	: 01-Nov-2023 15:52
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_231025 0850	0356_MW126_231025 1035	0356_QC100_231025	----	----
				Sampling date / time	25-Oct-2023 08:50	25-Oct-2023 10:35	25-Oct-2023 08:50	----	----
Compound	CAS Number	LOR	Unit		ES2336799-001	ES2336799-002	ES2336799-003	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**0.02**	**0.02**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.01**	**0.01**	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_231025 0850	0356_MW126_231025 1035	0356_QC100_231025	----	----
				Sampling date / time	25-Oct-2023 08:50	25-Oct-2023 10:35	25-Oct-2023 08:50	----	----
Compound	CAS Number	LOR	Unit		ES2336799-001	ES2336799-002	ES2336799-003	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	**0.03**	**0.02**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	**0.03**	**0.02**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	**0.03**	**0.02**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**92.6**	**100**	**98.2**	----	----
13C8-PFOA	----	0.02	%		**89.7**	**86.8**	**89.7**	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2336799**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023
Order number	: 60612562_8.1	Date Analysis Commenced	: 26-Oct-2023
C-O-C number	: 59195	Issue Date	: 01-Nov-2023
Sampler	: [redacted]		
Site	: 0356		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: 5392759)									
ES2336679-014	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.36	0.37	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.11	2.08	1.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.04	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2336903-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5392759)									
ES2336679-014	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.39	0.41	5.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.26	0.26	0.0	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.37	0.37	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.78	0.79	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.24	0.24	0.0	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5392759) - continued									
ES2336903-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5392759)									
ES2336679-014	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
ES2336903-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5392759)									
ES2336679-014	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: 5392759) - continued									
ES2336679-014	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
ES2336903-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5392759)									
ES2336679-014	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	4.64	4.66	0.4	0% - 20%
ES2336903-001	Anonymous	EP231X: Sum of PFAS	----	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: 5392759)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	93.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	87.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	94.2	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	99.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	98.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5392759)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	115	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5392759)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	107	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.1	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.1	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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5392759)								

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: 5392759) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	103	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	114	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	108	71.4	144

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	: **ES2336799**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_23	Date Samples Received	: 25-Oct-2023
Site	: 0356	Issue Date	: 01-Nov-2023
Sampler	: [redacted]	No. of samples received	: 3
Order number	: 60612562_8.1	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
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*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0356_MW126_2310250850, 0356_MW126_2310251035, 0356_QC100_231025	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0356_MW126_2310250850, 0356_MW126_2310251035, 0356_QC100_231025	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0356_MW126_2310250850, 0356_MW126_2310251035, 0356_QC100_231025	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0356_MW126_2310250850, 0356_MW126_2310251035, 0356_QC100_231025	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0356_MW126_2310250850, 0356_MW126_2310251035, 0356_QC100_231025	**25-Oct-2023**	**31-Oct-2023**	22-Apr-2024	✓	**31-Oct-2023**	22-Apr-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	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 : **ES2336799**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0356_PFASOMP_23	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 59195	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0356		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Oct-2023 14:30	Issue Date	: 27-Oct-2023
Client Requested Due Date	: 01-Nov-2023	Scheduled Reporting Date	: **01-Nov-2023**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6'c
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **(27/10/2023) This is an updated SRN which reflects a change in sampling time for sample 003.**
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

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.

ES2336799-001 : 25-Oct-2023 08:50 : 0356_MW126_2310250850
ES2336799-002 : 25-Oct-2023 10:35 : 0356_MW126_2310251035

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)
ES2336799-001	25-Oct-2023 08:50	0356_MW126_2310250850	✓
ES2336799-002	25-Oct-2023 10:35	0356_MW126_2310251035	✓
ES2336799-003	25-Oct-2023 08:50	0356_QC100_231025	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- EDI Format - XTab (XTAB)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- A4 - AU Tax Invoice (INV)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ENMRG (ENMRG)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	[redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	[redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	[redacted]
- Chain of Custody (CoC) (COC)	Email	[redacted]
- EDI Format - ENMRG (ENMRG)	Email	[redacted]
- EDI Format - ESDAT (ESDAT)	Email	[redacted]
- EDI Format - XTab (XTAB)	Email	[redacted]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

CHAIN OF CUSTODY

COC#: **59195** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 25/10/23 1925	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 6.2 °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_MW126_2310250850		25/10/2023 08:50 AM	WATER	ALS: 8 Non ALS: 0	No	X		
002	0356_MW126_2310251035		25/10/2023 10:35 AM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0356_QC100_231025		25/10/2023 01:41 PM	WATER	ALS: 4 Non ALS: 0	No	X		

Environmental Division Sydney

Work Order Reference

ES2336799

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY

COC#: 59195 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 25/10/23 1905	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_23

SITE: 0356

ORDER NO: 60612562_8.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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: 6-2

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00350822059623	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00350822059508	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00352101040237	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00352101040251	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00350822059705	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00352101040390	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00350822059568	Grey	No	
001	0356_MW126_231025085	HDPE (no PTFE)	20 mL	00352101040686	Grey	No	
002	0356_MW126_231025103	HDPE (no PTFE)	20 mL	00350621001329	Grey	No	
002	0356_MW126_231025103	HDPE (no PTFE)	20 mL	00352101040326	Grey	No	
002	0356_MW126_231025103	HDPE (no PTFE)	20 mL	00350621001704	Grey	No	
002	0356_MW126_231025103	HDPE (no PTFE)	20 mL	00352101040454	Grey	No	
003	0356_QC100_231025	HDPE (no PTFE)	20 mL	00350621036690	Grey	No	
003	0356_QC100_231025	HDPE (no PTFE)	20 mL	00350621036852	Grey	No	
003	0356_QC100_231025	HDPE (no PTFE)	20 mL	00352101040444	Grey	No	
003	0356_QC100_231025	HDPE (no PTFE)	20 mL	00352101060022	Grey	No	

Total Bottle Count: ALS: 16, Non ALS: 0

ALSCompass SAMPLING *Intelligence*

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: 60612562_8.1 **Client:** AECOM **Project Manager:** [redacted]

Phone:

ALS Compass COC Reference: ~~59195~~ 59195 **# Samples:** 3 3 **Sampler:** [redacted]

Phone:

Turnaround Requirements: Standard (circled) _____ Urgent _____

Special Instructions:	ALS Use Only
	Custody seal intact? YES NO (N/A)
	Free ice / frozen ice bricks upon receipt? YES (NO) N/A
	Random sample temperature on receipt? 6.0 °C

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
[redacted]	JN		[illegible]
Date / Time: 25.10.23 1430	Date / Time: 1430	Date / Time: 25-10-23 5pm	Date / Time: 25/10/23 1925

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

CERTIFICATE OF ANALYSIS 328563

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**60612562_8.1 NSW_0356_PFASOMP_23**
Number of Samples	3 Waters, 2 Soils
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/07/2023
Date of Issue	28/07/2023

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

[redacted], Customer Service Supervisor
[redacted], Senior Chemist
[redacted], Operation Manager
[redacted], Organics Development Manager, Sydney
[redacted], Senior Chemist

Authorised By

[redacted], Laboratory Manager

PFAS in Soils Extended			
Our Reference		328563-2	328563-5
Your Reference	UNITS	0356_QC201_230717	0356_QC204_230718
Date Sampled		17/07/2023	18/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	24/07/2023	24/07/2023
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.2	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	3.2	0.9
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.2	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<5	<0.5
Perfluorododecanoic acid	µg/kg	<2	<0.5
Perfluorotridecanoic acid	µg/kg	<2	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<2	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<5	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<10	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.4	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	92	96
Surrogate $^{13}C_2$ *PFOA*	%	90	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	88	76
Extracted ISTD $^{18}O_2$ *PFHxS*	%	86	69
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	110

PFAS in Soils Extended			
Our Reference		328563-2	328563-5
Your Reference	UNITS	0356_QC201_230717	0356_QC204_230718
Date Sampled		17/07/2023	18/07/2023
Type of sample		Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	98	92
Extracted ISTD $^{13}C_3$ *PFPeA*	%	105	69
Extracted ISTD $^{13}C_2$ *PFHxA*	%	101	99
Extracted ISTD $^{13}C_4$ *PFHpA*	%	95	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	85	108
Extracted ISTD $^{13}C_5$ *PFNA*	%	47	110
Extracted ISTD $^{13}C_2$ *PFDA*	%	54	81
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	#	83
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	20	117
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	20	80
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	94	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	102	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	52	97
Extracted ISTD $^{13}C_8$ *FOSA*	%	46	91
Extracted ISTD d_3 *N MeFOSA*	%	21	89
Extracted ISTD d_5 *N EtFOSA*	%	51	92
Extracted ISTD d_7 *N MeFOSE*	%	#	76
Extracted ISTD d_9 *N EtFOSE*	%	58	92
Extracted ISTD d_3 *N MeFOSAA*	%	54	106
Extracted ISTD d_5 *N EtFOSAA*	%	47	84
Total Positive PFHxS & PFOS	µg/kg	3.4	0.9
Total Positive PFOS & PFOA	µg/kg	3.2	0.9
Total Positive PFAS	µg/kg	3.4	0.9

PFAS in Waters Extended				
Our Reference		328563-1	328563-3	328563-4
Your Reference	UNITS	0356_QC200_230717	0356_QC202_230717	0356_QC203_230718
Date Sampled		17/07/2023	17/07/2023	18/07/2023
Type of sample		Water	Water	Water
Date prepared	-	24/07/2023	24/07/2023	24/07/2023
Date analysed	-	24/07/2023	24/07/2023	24/07/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	96	102	97
Surrogate $^{13}C_2$ *PFOA*	%	103	103	106
Extracted ISTD $^{13}C_3$ *PFBS*	%	108	109	105
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	105	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	109	107	107

PFAS in Waters Extended				
Our Reference		328563-1	328563-3	328563-4
Your Reference	UNITS	0356_QC200_230717	0356_QC202_230717	0356_QC203_230718
Date Sampled		17/07/2023	17/07/2023	18/07/2023
Type of sample		Water	Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	114	96	107
Extracted ISTD $^{13}C_3$ *PFPeA*	%	108	116	115
Extracted ISTD $^{13}C_2$ *PFHxA*	%	109	120	116
Extracted ISTD $^{13}C_4$ *PFHpA*	%	96	103	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	108	119	116
Extracted ISTD $^{13}C_5$ *PFNA*	%	108	117	116
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	113	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	104	108	111
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	112	117
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	78	81	87
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	80	120	114
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	84	124	119
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	120	122
Extracted ISTD $^{13}C_8$ *FOSA*	%	106	110	94
Extracted ISTD d_3 *N MeFOSA*	%	101	105	101
Extracted ISTD d_5 *N EtFOSA*	%	97	100	96
Extracted ISTD d_7 *N MeFOSE*	%	104	106	100
Extracted ISTD d_9 *N EtFOSE*	%	101	106	104
Extracted ISTD d_3 *N MeFOSAA*	%	98	119	110
Extracted ISTD d_5 *N EtFOSAA*	%	95	103	104
Total Positive PFHxS & PFOS	µg/L	<0.01	0.02	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.02	<0.01

Moisture			
Our Reference		328563-2	328563-5
Your Reference	UNITS	0356_QC201_230717	0356_QC204_230718
Date Sampled		17/07/2023	18/07/2023
Type of sample		Soil	Soil
Date prepared	-	24/07/2023	24/07/2023
Date analysed	-	25/07/2023	25/07/2023
Moisture	%	30	34

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/07/2023	[NT]	[NT]	[NT]	[NT]	24/07/2023	[NT]
Date analysed	-			24/07/2023	[NT]	[NT]	[NT]	[NT]	24/07/2023	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	123	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	99	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
10:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	139	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	138	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	120	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	119	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	119	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	328563-3
Date prepared	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Date analysed	-			24/07/2023	1	24/07/2023	24/07/2023		24/07/2023	24/07/2023
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	96	96
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	101	101
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	98	100
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	104
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	93	97
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	83	87
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	96
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	94
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	95	96
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	98	97
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	97	96
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	96	100
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	99
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	100
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	100	97
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	95	91
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	101	99
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	93
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	99
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	104
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	96
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	98
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	99	98
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	103
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	94	89
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	97	95
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	108	95
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	102
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	1	96	101	5	101	102
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	1	103	104	1	103	104

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	328563-3
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	103	1	108	108	0	102	109
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	1	104	106	2	101	105
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	103	1	109	105	4	104	103
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	107	1	114	116	2	107	95
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	107	1	108	107	1	105	116
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	1	109	111	2	107	115
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	100	1	96	94	2	98	99
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	1	108	107	1	105	115
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	107	1	108	109	1	105	115
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	114	1	107	110	3	110	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	116	1	104	108	4	103	108
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	108	1	106	110	4	103	110
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	77	1	78	80	3	76	78
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	111	1	80	83	4	98	123
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	113	1	84	88	5	103	120
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	116	1	98	103	5	110	121
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	111	1	106	108	2	103	103
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	102	1	101	99	2	99	102
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	97	98	1	94	98
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	106	1	104	105	1	98	102

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	328563-3
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	1	101	102	1	99	101
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	113	1	98	102	4	107	115
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	105	1	95	93	2	106	102

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

CHAIN OF CUSTODY FORM

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Company:	AECOM	Client Project Name/Number/Site etc (ie report title):	NSW_0356_PFASOMP_23
Contact Person:	[redacted]	PO No. (if applicable):	60612562_8.1
Project Mgr:		Envirolab Quote No. :	
Sampler:		Date results required:	
Address:	Level 6, 420 George St, Sydney, NSW, 2000	Or choose:	☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day
Phone:	Mob: 0402 163 223	Note: Inform lab in advance if urgent turnaround is required - surcharges apply	
Email Results to:	[redacted]	Additional report format:	✓Esdat Equis
Email Invoice to:	[redacted]	Lab Comments:	

Sample information					Tests Required																	Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information		Date Sampled	Type of Sample	PFAS Extended Suite - Routine Level																	Provide as much information about the sample as you can
1	0356_QC200_230717		17/07/2023	Water	X																	
2	0356_QC201_230717		17/07/2023	Soil	X																	
3	0356_QC202_230717		17/07/2023	Water	X																	
4	0356_QC203_230718		18/07/2023	Water	X																	
5	0356_QC204_230718		18/07/2023	Soil	X																	
6	0356_QC205_230719		19/07/2023	Water	X																	
7	0356_QC206_230719		19/07/2023	Soil	X																	
8	0356_QC207_230719		19/07/2023	Water	X																	
9	0356_QC208_230719		19/07/2023	Water	X																	

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): AECOM		Received by (Company): ES	Lab Use Only
Print Name:	[redacted]	Print Name: [redacted]	Job number: 32-85563
Date & Time:	20/07/2023	Date & Time: 21-7-23 8:10	Temperature: 4.0
Signature:	[redacted]	Signature: [redacted]	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD
			Cooling: Ice / Ice pack / None
			Security seal: Intact / Broken / None

Please send ESdat files to [redacted]labreports@esdat.com.au and ensure that the files use the PROJECT NAME

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	60612562_8.1 NSW_0356_PFASOMP_23
Envirolab Reference	328563
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	6 Water, 3 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4.0
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

[redacted]	[redacted]
Phone: [redacted]	**Phone:** [redacted]
Fax: [redacted]	**Fax:** [redacted]
Email: [redacted]	**Email:** [redacted]

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

Sample ID	AECOM checks	AECOM checks	AECOM checks	AECOM checks	PFAS in Soils Extended	PFAS in Waters Extended
0356_QC200_230717	✓	✓	✓	✓		✓
0356_QC201_230717	✓	✓	✓	✓	✓	
0356_QC202_230717	✓	✓	✓	✓		✓
0356_QC203_230718	✓	✓	✓	✓		✓
0356_QC204_230718	✓	✓	✓	✓	✓	
0356_QC205_230719	✓	✓	✓	✓		✓
0356_QC206_230719	✓	✓	✓	✓	✓	
0356_QC207_230719	✓	✓	✓	✓		✓
0356_QC208_230719	✓	✓	✓	✓		✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

CERTIFICATE OF ANALYSIS 328563-A

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**60612562_8.1 NSW_0356_PFASOMP_23**
Number of Samples	3 Waters, 1 Soil
Date samples received	21/07/2023
Date completed instructions received	21/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	28/07/2023
Date of Issue	28/07/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
[redacted], Operation Manager
[redacted], Organics Development Manager, Sydney
[redacted], Senior Chemist

Authorised By
[redacted], Laboratory Manager

PFAS in Waters Extended		
Our Reference		328563-A-6
Your Reference	UNITS	0356_QC205_230719
Date Sampled		19/07/2023
Type of sample		Water
Date prepared	-	24/07/2023
Date analysed	-	24/07/2023
Perfluorobutanesulfonic acid	µg/L	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02
Perfluorobutanoic acid	µg/L	<0.02
Perfluoropentanoic acid	µg/L	<0.02
Perfluorohexanoic acid	µg/L	<0.01
Perfluoroheptanoic acid	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
Perfluorononanoic acid	µg/L	<0.01
Perfluorodecanoic acid	µg/L	<0.02
Perfluoroundecanoic acid	µg/L	<0.02
Perfluorododecanoic acid	µg/L	<0.05
Perfluorotridecanoic acid	µg/L	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5
4:2 FTS	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
10:2 FTS	µg/L	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98
Surrogate $^{13}C_2$ *PFOA*	%	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	113
Extracted ISTD $^{18}O_2$ *PFHxS*	%	106
Extracted ISTD $^{13}C_4$ *PFOS*	%	111

PFAS in Waters Extended		
Our Reference		328563-A-6
Your Reference	UNITS	0356_QC205_230719
Date Sampled		19/07/2023
Type of sample		Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	105
Extracted ISTD $^{13}C_3$ *PFPeA*	%	118
Extracted ISTD $^{13}C_2$ *PFHxA*	%	120
Extracted ISTD $^{13}C_4$ *PFHpA*	%	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	123
Extracted ISTD $^{13}C_5$ *PFNA*	%	120
Extracted ISTD $^{13}C_2$ *PFDA*	%	116
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	116
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	122
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	118
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125
Extracted ISTD $^{13}C_8$ *FOSA*	%	107
Extracted ISTD d_3 *N MeFOSA*	%	101
Extracted ISTD d_5 *N EtFOSA*	%	99
Extracted ISTD d_7 *N MeFOSE*	%	105
Extracted ISTD d_9 *N EtFOSE*	%	103
Extracted ISTD d_3 *N MeFOSAA*	%	118
Extracted ISTD d_5 *N EtFOSAA*	%	110
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			24/07/2023	[NT]	[NT]	[NT]	[NT]	24/07/2023	[NT]
Date analysed	-			24/07/2023	[NT]	[NT]	[NT]	[NT]	24/07/2023	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	93	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	83	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	99	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	97	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	77	[NT]	[NT]	[NT]	[NT]	76	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	60612562_8.1 NSW_0356_PFASOMP_23
Envirolab Reference	328563-A
Date Sample Received	21/07/2023
Date Instructions Received	21/07/2023
Date Results Expected to be Reported	28/07/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Waters, 1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4.0
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

[redacted]	[redacted]
Phone: [redacted]	**Phone:** [redacted]
Fax: [redacted]	**Fax:** [redacted]
Email: [redacted]	**Email:** [redacted]

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

Sample ID	AECOM checks	AECOM checks	AECOM checks	AECOM checks	PFAS in Waters Extended	On Hold
-						✓
-						✓
-						✓
-						✓
-						✓
0356_QC205_230719	✓	✓	✓	✓	✓	
0356_QC206_230719						✓
0356_QC207_230719						✓
0356_QC208_230719						✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, January 2024

PFAS OMP - Singleton Military Area (Site ID 0356)

28-May-2024
Doc No. 20240528_OMP002_SMA_SamplingEventFactualReport_Rev0

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Delivering a better world

Sampling Event Factual Report, January 2024

PFAS OMP - Singleton Military Area (Site ID 0356)

Client: Department of Defence

ABN: 68706814312

Prepared by

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28-May-2024

Job No.: 60612562

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

Quality Information

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Revision History

Rev	Revision Date	Details
A	05-Mar-2024	Draft
B	19-Apr-2024	Draft
0	28-May-2024	Final

Table of Contents

List of Tables (in Text)

List of Acronyms

Acronym	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DoH	Department of Health
DQI	Data Quality Indicator
DQO	Data Quality Objective
EPA	Environment Protection Authority
FSANZ	Food Standards Australia New Zealand
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
LOR	Limit of Reporting
MW	Monitoring Well
NATA	National Analytical Testing Authority
NEMP	National Environmental Management Plan
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OMR	Ongoing Monitoring Report
OMP	Ongoing Monitoring Plan
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
Redox	Reduction-oxidation
RPD	Relative Percentage Difference
SAQP	Sample and Analysis Quality Plan
SD	Sediment
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Standing Water Level

Acronym	Term
WQM	Water Quality Meter

List of Units

Units	Term
°C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	Micro Siemens per centimetre
g	Grams
km	Kilometre
L	Litre
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mbTOC	Metres below Top of Casing
mg/kg	Milligrams per kilogram
mg/L	Milligrams per Litre
mV	Millivolts

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) has been engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) at the Singleton Military Area (the 'Site') in New South Wales (NSW). The location of the Site and surrounding areas is shown in **Figure F1** in **Appendix A**.

The OMP (Defence, 2021c) outlines the sampling requirements for the On-Site and Off-Site areas within the Management Area.

Following each sampling event, a factual sampling event report is prepared. An Ongoing Monitoring Report (OMR) will be prepared following the completion of each 12-month sampling period.

This Sampling Event Factual Report has been prepared to report the results of the January 2024 biannual sampling event, specifically highlighting first-time detections and/or new exceedances of human health or ecological screening criteria for the sum of Perfluorooctane sulfonic acid (PFOS) and Perfluorohexane sulfonic acid (PFHxS) (herein referred to as PFOS+PFHxS), PFOS and/or Perfluorooctanoic acid (PFOA) in surface water and groundwater. Trends in concentrations of the abovementioned PFAS in sediment and wastewater effluent are also reported.

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2021c) prepared as part of the Detailed Environmental Investigations; and
- collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, transport, and transformation of PFAS.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PFAS Management Area Plan (PMAP) (Defence, 2021b).

The objective of this phase of works was to implement the scope of works for the January 2024 biannual sampling event in accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2024).

2.0 Scope of Work

The scope of works was completed generally in accordance with the SAQP, as follows:

- obtain permission (where required) to conduct works at the Site, off-Site publicly accessible areas and at private properties
- gauging of groundwater level in monitoring wells prior to collection of samples
- collection of groundwater samples and water quality parameters at 3 of 4 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations). Note that groundwater samples and water quality parameters were also collected at 2 unscheduled monitoring wells, as requested by Defence and the NSW Environment Protection Authority (EPA).
- collection of surface water samples and water quality parameters at 13 of 20 scheduled surface water locations (refer to **Table 2** below and **Figure F3** in **Appendix A** for specific locations)
- collection of sediment samples at 20 of 20 scheduled sediment locations (refer to **Table 3** below and **Figure F4** in **Appendix A** for specific locations)
- collection of a wastewater effluent sample at one scheduled location (refer to **Table 3** below and **Figure F3** in **Appendix A** for specific locations)
- collection of field intra-laboratory duplicate samples at a rate of 1 in 10 primary samples
- collection of field inter-laboratory duplicate samples at a rate of 1 in 10 primary samples
- analysis of samples for PFAS full suite (28 analytes) at the standard limit of reporting (LOR)
- data management of the OMP field and laboratory data in Defence ESdat database
- preparation of this Sampling Event Factual Report.

The deviations from the scheduled scope of works are discussed in detail in **Section 3.0**

Table 1 Groundwater Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment Boundary (Sub-catchment A)	**MW056#,** MW102, MW104*, MW109, MW110, **MW126#**	6
Total			**6**

* Location not sampled
# Unscheduled location sampled as requested by Defence and NSW EPA
Bold text denotes private property / Council location

Table 2 Surface Water and Wastewater Effluent Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment Boundary (Sub-catchment A)	SW002, SW003, SW026, SW032, SW034*	5
	Central Cantonment (Sub-catchment B)	SW028, SW555	2
	Northern Cantonment Boundary	SW115*	1
	Southern Cantonment (Sub-catchment C)	SW040, SW114*, SW116*	3
	Dochra Airfield	SW004*, SW005*	2
Off-Site	North of Site (Doughboy Hollow Creek Catchment)	**OTH006^, SW036, SW064, SW065, SW553*, SW563**	6
	East of Site (Doughboy Hollow Creek Catchment)	**SW039**	1

Area	Description	Sampling Location	Total
	West of Site (Doughboy Hollow Creek Catchment)	**SW035**	1
Total			**21**

* Location not sampled
^wastewater effluent location
Bold text denotes private property / Council location

Table 3 Sediment Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Northern Cantonment (Sub-catchment A)	SD002, SD003, SD032, SD065, SD053	5
	Northern Cantonment Boundary	SD115	1
	Central Cantonment (Sub-catchment B)	SD055, SD555	2
	Southern Cantonment (Sub-catchment C)	SD040, SD116, SD114	3
	Dochra Airfield	SD004, SD005	2
Off-Site	North of Site	**SD046, SD047, SD080, SD539, SD563**	5
	East of Site	**SD039**	1
	West of Site	**SD052**	1
Total			**20**

Bold text denotes private property / Council location

3.0 Deviations from the SAQP

The January 2024 biannual sampling event was completed in general accordance with the SAQP with the exception of the deviations outlined in **Table 4** below.

Table 4 Deviations from SAQP (AECOM, 2024)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, and associated field parameters, were not collected from 1 of the 4 scheduled groundwater sampling locations.	Groundwater monitoring well MW104 was observed to have insufficient water volume to be sampled during the sampling event.	The lack of sampling data is not considered to have a significant impact on the dataset, or present a significant data gap, as a nearby well (MW110) was sampled, targeting the same shallow aquifer, and located along the Northern Cantonment Boundary. AECOM recommends that groundwater sampling location MW104 be removed from the OMP scope as the location has been dry during all OMP sampling events to date.
Sampling of 2 unscheduled groundwater sampling locations, at the request of Defence and the NSW EPA.	Given samples collected from groundwater monitoring wells MW056 and MW126 (located on private properties) reported a significant increase in PFOS+PFHxS concentrations, above drinking water guideline criteria (0.07 µg/L) for samples collected from both locations in July 2023 and from MW056 in October 2023, these locations were resampled in January 2024 to confirm the results.	The additional sampling data for MW056 were consistent with the results obtained from sampling in July 2023 and October 2023. The risk profile for this property may have changed and should be reassessed. The concentrations in MW126 were within the historical range and similar to the concentrations reported in October 2023, which were below human health screening criteria. Therefore, it is likely that the results reported in July 2023 were anomalous. The impact on the dataset and update to the understanding of the conceptual site model will be discussed in the relevant OMR. AECOM will sample these locations again during the next sampling event in July 2024.
Samples, and associated field parameters, were not collected from 7 of the 20 scheduled surface water locations.	Surface water locations SW004, SW005, SW034, SW114, SW115, SW116, and SW553 were dry and could not be sampled during this sampling event.	The lack of sampling data at these locations is not considered to have a significant impact on the dataset, or present a significant data gap, given that it confirms that the source>receptor>pathway linkages for PFAS in surface water were incomplete at the time of sampling. AECOM will attempt to sample these locations again during the next sampling event in July 2024.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the January 2024 biannual sampling event was in general accordance with the SAQP (AECOM, 2024) and is summarised in **Table 5** below.

Table 5 Sampling Methodology

Item	Details
Groundwater gauging	On 23 January 2024, a targeted gauging round was completed at accessible monitoring wells scheduled to be sampled during the biannual sampling event. The depth to groundwater (in metres below top of casing [mbTOC]) was measured in each monitoring well during this targeted gauging event. The depth to groundwater was also measured in each accessible monitoring well immediately prior to collection of groundwater. Measurements of depth to groundwater were undertaken using an interface probe, which was tested by the supplier to ensure the instrument was fully operational prior to despatch and use. The equipment supplier records are provided in **Appendix C**.
Field parameters	Temperature, electrical conductivity, dissolved oxygen, reduction-oxidation (Redox), pH and observations of water quality were recorded for groundwater and surface water samples. Field parameters were collected ex-situ using a calibrated water quality meter (WQM). The equipment supplier and field calibration records are provided in **Appendix C**.
Sampling methodology	**Groundwater Monitoring Wells** Groundwater samples were collected from each monitoring well using HydraSleeves™, a no-purge sampling methodology. HydraSleeves™ were installed within the screened interval of the wells for a minimum of 4 hours prior to the sampling round, based on a review of the well construction log. For this event, the HydraSleeves™ were installed during the previous sampling round in July 2023, except for MW056 and MW126 which were installed in October 2023 when the monitoring wells were resampled. Once sampling was completed, new HydraSleeves™ were deployed in each of the monitoring wells, within the screened interval depth in preparation for the next sampling round. **Surface Water** Surface water samples were collected from either mid-way through the water column or approximately 0.5 m below the surface, without disturbing the bottom of the surface water body, and without capturing any surface film or floating materials in the samples. At each location, a new, laboratory supplied container was lowered into the water (either by hand or using a sampling pole) with the cap immediately applied once the container was full. **Sediment** Sediment samples representative of potentially deposited sediments were collected from within the water body, using a hand trowel to a maximum depth of 0.3 metres below ground level (mbgl). A new laboratory supplied container was used at each location for collection of samples.

Item	Details
	Wastewater Effluent Sample OTH006 was collected from the in-flow effluent wastewater pipe beneath the Sewage Treatment Plant (STP) pump house. The sample was collected using a dedicated disposable bailer lowered through an access hatch in the base of the pump house. The sample was decanted directly into a new, laboratory supplied container with the cap immediately applied once the container was full.
QA/QC Samples	A QA/QC program was implemented for the sampling and analysis program in order to obtain representative data and assess the reliability of the data obtained. To facilitate the QA/QC program the following sample types were obtained during the sampling program: • *Intra-laboratory duplicates* collected at a rate of 1 in 10 primary samples. The relative percentage difference (RPD) should be less than 30%, or less than 50% if results are less than 20 times the LOR. Higher RPDs may also be acceptable if results are less than 10 times the LOR. • *Inter-laboratory duplicates* collected at a rate of 1 in 10 primary samples. The RPD should be less than 30%, or less than 50% if results are less than 20 times the LOR. Higher RPDs may also be acceptable if results are less than 10 times the LOR. • *Rinsate blanks* collected at a frequency of one per set of sampling equipment per day where equipment was reused between locations. Analytical results should be below the laboratory LOR. For this January 2024 biannual sampling event, the QA/QC samples included: • 6 x intra-laboratory duplicates (1 groundwater, 2 surface water and 3 sediment) which met the target frequency • 6 x inter-laboratory duplicates (1 groundwater, 2 surface water and 3 sediment) which met the target frequency • 2 x rinsate blanks, which met the target frequency. The data validation assessment is presented in **Appendix D**.
Sample analysis	Samples were submitted to the primary and secondary laboratories for PFAS full suite (28 analytes) at the standard limit of reporting (LOR). ALS Environmental (ALS) Sydney, NSW was used as the primary laboratory. Envirolab Services (Envirolab) Sydney, NSW was used as the secondary laboratory. ALS and Envirolab methods for analyses were certified by the National Association of Testing Authorities (NATA). A summary of the laboratory results is presented in **Section 5.3** and the laboratory certificates are presented in **Appendix E**.

4.2 Adopted Screening Criteria

Guidance documents used to assess the dataset include the following:

- Heads of EPAs Australia and New Zealand (HEPA) 2020. *PFAS National Environmental Management Plan 2.0*. January 2020.
- Department of Health (DoH), 2017. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017. This document is based on the works undertaken by Food Standards Australia New Zealand (FSANZ) in 2017 (FSANZ 2017).

- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water.* August 2019.
- National Environment Protection Council (NEPC), 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B1 Guideline on Investigation Levels For Soil and Groundwater.*

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

Table 6 Summary of Adopted Screening Criteria: Water

Media	Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors				
Water – Groundwater	Drinking water	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 Tolerable Daily Intake (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), 2011 (updated in January 2022) 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 were compared to these criteria.*
		PFOA	0.56 µg/L	
Water – Surface Water	Recreational use	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. These values were adopted in the PFAS NEMP, 2020. *All surface water results (inclusive of wastewater results) were compared to these criteria.*
		PFOA	10 µg/L	

Media	Pathway	Compound	Criteria	Comment/Reference
Ecological Receptors				
Water – Groundwater and Surface Water	Freshwater	PFOS	0.00023 µg/L	The values are from the PFAS NEMP, 2020 which endorsed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 99% species protection level (for freshwater and interim marine) has been applied for high value conservation systems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. It is proposed that the laboratory LOR is adopted for the purposes of preliminary screening of analytical water results, rather than sole use of the criteria value. *All groundwater and surface water results (inclusive of wastewater results) were compared to these criteria.*
		PFOA	19 µg/L	

4.3 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. Data validation assessment is provided in **Appendix D**.

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

Following the reporting of PFAS concentrations which were first-time detections and new exceedances at two locations (SW555 and SW563), the primary laboratory was requested to repeat the analysis which confirmed the originally reported concentrations.

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

5.0 Field Observations and Results

5.1 General Observations

The weather conditions and general observations (including activities that may impact the monitoring program) recorded during the January 2024 biannual sampling event completed between 23 and 25 January 2024 are summarised in **Table 7** below.

Table 7 General Observations

Items	Observations
Weather Conditions	During the sampling event, the weather was observed to be hot and humid, with maximum daily temperatures between 28.4˚C (23 January 2024) and 41.5˚C (25 January 2024). No rainfall was recorded at Singleton (Singleton Defence AWS, Station 061430) (Bureau of Meteorology, 2024) during the sampling event.
Estate Management Works, Training Activities and/or Construction Works.	No estate management works, training activities or construction works were observed during the sampling event, that would impact the sampling program.

5.2 Field Observations and Measurements

The observations and measurements recorded during the field activities for the January 2024 biannual sampling event are summarised in **Table 8**, below.

Table 8 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	All wells sampled were observed to be in good condition.
Water Observations	No visible signs of contamination were observed in groundwater and surface water at the locations sampled. An organic sheen was noted at surface water location SW002. An organic odour was observed at the wastewater effluent location (OTH006).
Depth to Groundwater and Flow Direction	Depth to groundwater ranged from 5.685 (MW056) and 13.400 (MW110) (mbTOC. Groundwater elevation ranged between 29.025 (MW056) and 34.405 (MW104) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. Inferred shallow groundwater contours and groundwater flow directions are shown on **Figure F5** in **Appendix A**, based on data collected during the targeted gauging round on 23 January 2024, and additional gauging data collected from residential locations on 24 January 2024. Given the limited groundwater gauging data, no deep groundwater contours were developed, with the inferred flow to the north-east, consistent with the historical groundwater flow direction, as shown on **Figure F6** in **Appendix A.**
Water Quality Parameters	Groundwater and surface water geochemical parameters were measured during the collection of water samples. The readings are presented in **Table T2** and **Table T3** in **Appendix B** and are summarised below: **Groundwater Geochemical Parameters** • Dissolved oxygen ranged from 0.57 mg/L (MW109) to 2.78 mg/L (MW056) indicating poor to moderately oxygenated conditions.

Item	Description
	• Electrical conductivity ranged from 3,281.0 µS/cm (MW056) to 23,379.0 µS/cm (MW102) indicating fresh to saline conditions. • pH ranged from 6.56 (MW102) to 7.13 (MW056) indicating near-neutral to neutral conditions. • Redox (corrected) ranged from 85.5 mV (MW102) to 312.5 mV (MW056) indicating mildly reducing to oxidising conditions. • Temperature ranged from 20.3˚C (MW056) to 26.0˚C (MW110). **Surface Water Geochemical Parameters** • Dissolved oxygen ranged from 0.54 mg/L (SW002) to 7.54 mg/L (SW036) indicating Poor to well oxygenated conditions. • Electrical conductivity ranged from 53.5 µS/cm (SW032) to 3,540.0 µS/cm (SW040) indicating fresh to saline conditions. • pH ranged from 6.04 (SW028) to 9.37 (SW563) indicating near-neutral to alkaline conditions. • Redox (corrected) ranged from 75.1 mV (SW002) to 360.6 mV (SW028) indicating mildly reducing to oxidising conditions. • Temperature ranged from 23.6˚C (SW563, SW555) to 33.3˚C (SW065).
Sediment Observations	Sediment sampled and logged during this monitoring event comprised silty sand, silty clay and clay materials with minor inclusions of organic materials (mostly rootlets). No anthropogenic inclusions or staining were observed. An organic odour was observed at four sediment location (SD046, SD052, SD080 and SD555). Refer to in **Table T4** in **Appendix B** for a summary of sediment classifications and observations.

5.3 Summary of Analytical Results

5.3.1 Groundwater Analytical Results

The PFAS groundwater analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, 5 primary groundwater samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in three primary groundwater samples
- PFOS+PFHxS and/or PFOA exceeding the adopted drinking water human health screening criteria in two primary groundwater samples
- PFOS and/or PFOA exceeding the adopted ecological screening criteria in two primary groundwater samples.

There were no first-time detections or new exceedances of adopted screening criteria for PFOS+PFHxS, PFOS and/or PFOA in the groundwater samples analysed.

5.3.2 Surface Water and Wastewater Analytical Results

The PFAS analytical results for surface water from this sampling event are presented in **Table T6** in **Appendix B**. In summary, 13 primary surface water samples and one wastewater effluent sample were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 11 primary surface water samples and one wastewater effluent sample
- PFOS+PFHxS and/or PFOA not exceeding the adopted recreational use human health screening criteria in the primary surface water samples and the wastewater effluent sample
- PFOS and/or PFOA exceeding the adopted ecological screening criteria in 11 primary surface water samples and one wastewater effluent sample.

Deviations from the historical dataset are provided in **Table 9** and on **Figure F7** in **Appendix A**.

Table 9 Deviations from Historical Dataset - Surface Water and Wastewater

<table>
<tr><th rowspan="2">Deviation Type</th><th rowspan="2">Surface water sampling location</th><th colspan="2">PFOS+PFHxS (µg/L)</th><th colspan="2">PFOA (µg/L)</th><th colspan="2">PFOS (µg/L)</th></tr>
<tr><th>Jan 2024</th><th>Previous maximum</th><th>Jan 2024</th><th>Previous maximum</th><th>Jan 2024</th><th>Previous maximum</th></tr>
<tr><td rowspan="2">First-time detections of PFOS+PFHxS PFOS and/or PFOA in surface water and wastewater</td><td>SW555</td><td>0.03</td><td><LOR</td><td colspan="2" rowspan="2">There were no first-time detections in the dataset.</td><td>0.02</td><td><LOR</td></tr>
<tr><td>SW563</td><td>0.01</td><td><LOR</td><td>0.01</td><td><LOR</td></tr>
<tr><td>New exceedance of the NEMP (HEPA, 2020) recreational guidelines in surface water and wastewater</td><td>n/a</td><td colspan="2">There were no new exceedances of the NEMP Human Health Screening Criteria (Recreational) in the dataset.</td><td colspan="2">There were no new exceedances of the NEMP Human Health Screening Criteria (Recreational) in the dataset.</td><td colspan="2">There are no applicable NEMP Human Health Screening Criteria (Recreational).</td></tr>
<tr><td rowspan="2">New exceedance of the NEMP (HEPA, 2020) Freshwater 99% guidelines in surface water and wastewater</td><td>SW555</td><td colspan="2" rowspan="2">There are no applicable NEMP Ecological Screening Criteria (99%).</td><td colspan="2" rowspan="2">There were no new exceedances of the NEMP Ecological Screening Criteria in the dataset (99%).</td><td>0.02</td><td><LOR</td></tr>
<tr><td>SW563</td><td>0.01</td><td><LOR</td></tr>
<tr><td colspan="8">Legend</td></tr>
<tr><td>Blue Shading</td><td colspan="7">Blue shading indicates sampling location with first-time detection of PFOS+PFHxS, PFOS and/or PFOA</td></tr>
<tr><td>Yellow Shading</td><td colspan="7">Yellow shading indicates sampling location with new exceedance of NEMP Human Health and/or Ecological Screening Criteria</td></tr>
</table>

5.3.3 Sediment Analytical Results

The PFAS sediment analytical results from this sampling event are presented in **Table T7** in **Appendix B**. In summary, 20 primary sediment samples were analysed for PFAS compounds, with concentrations of PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in the 20 primary samples.

Deviations from the historical dataset are recorded in **Table 10** and on **Figure F8** in **Appendix A**.

Table 10 Deviations from Historical Dataset - Sediment

Deviation Type	Sediment sampling location	PFOS+PFHxS (mg/kg)		PFOA (mg/kg)		PFOS (mg/kg)	
		Jan 2024	Previous maximum	Jan 2024	Previous maximum	Jan 2024	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in sediment	SD539	There were no first-time detections in the dataset.		0.0002	<LOR	There were no first-time detections in the dataset.	
	SD563			0.0002	<LOR		
Legend							
Blue Shading	Blue shading indicates sampling location with first-time detection of PFOS+PFHxS, PFOS and/or PFOA						

5.4 Historical Sampling Data

Historical groundwater, surface water (inclusive of wastewater), and sediment sampling data are presented in **Tables T8**, **T9** and **T10** in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The January 2024 biannual sampling event was completed between 23 and 25 January 2024. The findings and the recommended actions are summarised in **Table 11** below.

Table 11 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following were accessed and able to be sampled: • 3 groundwater locations • 13 surface water locations • 1 wastewater effluent location • 20 sediment locations	Nil.
Location unable to be located, inaccessible or dry	A groundwater sample from one groundwater location (MW104) was unable to be collected as the location had insufficient water volume. Samples from seven surface water locations (SW004, SW005, SW034, SW114, SW115, SW116, and SW553) were unable to be collected as the locations were observed to be dry.	AECOM recommends that groundwater sampling location MW104 be removed from the OMP scope as the location has been dry during all OMP sampling events to date. AECOM will attempt to sample surface water locations SW004, SW005, SW034, SW114, SW115, SW116 and SW553 during the next scheduled sampling event in July 2024.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition.	Nil.
Analytical Results	Five groundwater primary samples, 13 surface water primary samples, one wastewater effluent sample and 20 sediment primary samples were analysed.	Locations will be sampled and analysed again during the next scheduled sampling event to continue to monitor concentrations over time.
First-time detections of PFOS+PFHxS, PFOS and/or PFOA	No first-time detections of PFOS+PFHxS, PFOS and/or PFOA were reported in groundwater locations sampled. Two (SW555 and SW563) of 13 surface water locations sampled reported first-time detections of PFOS+PFHxS, PFOS and/or PFOA. Two (SD539 and SD563) of 20 sediment locations sampled reported first-time detections of PFOS+PFHxS, PFOS and/or PFOA.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.

Item	Comment	Recommended Action
New exceedance of adopted human health screening criteria	No new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA were reported in the groundwater locations sampled. No new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA were reported in the surface water and wastewater locations sampled.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.
New exceedance of adopted ecological screening criteria	No new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA were reported in the groundwater locations sampled. New exceedances of the adopted ecological screening criteria for PFOS and/or PFOA were reported in two (SW555 and SW563) of the 13 surface water and wastewater locations sampled.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.

6.2 Upcoming Sampling Events

The next OMP sampling event is scheduled for July 2024.

6.3 Upcoming Ongoing Monitoring Report

The data from this biannual January 2024 event will be included in the next OMR, which would capture data from July 2023 to June 2024.

7.0 References

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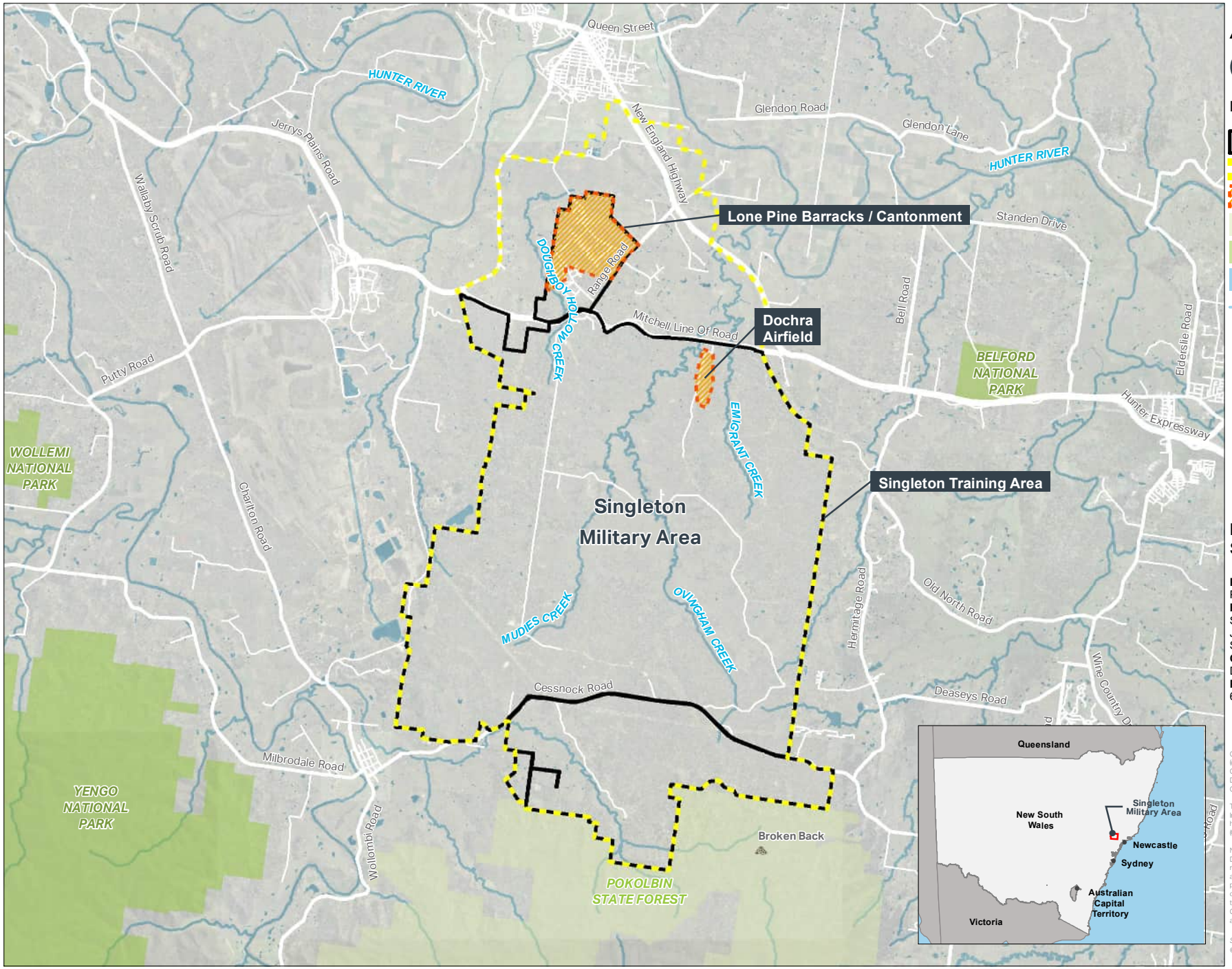
Appendix A

Figures



AECOM

N

0 1.5 3 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- State Forest
- NPWS Reserve
- Waterbody
- Watercourse

FIGURE F1:
SITE LOCATION

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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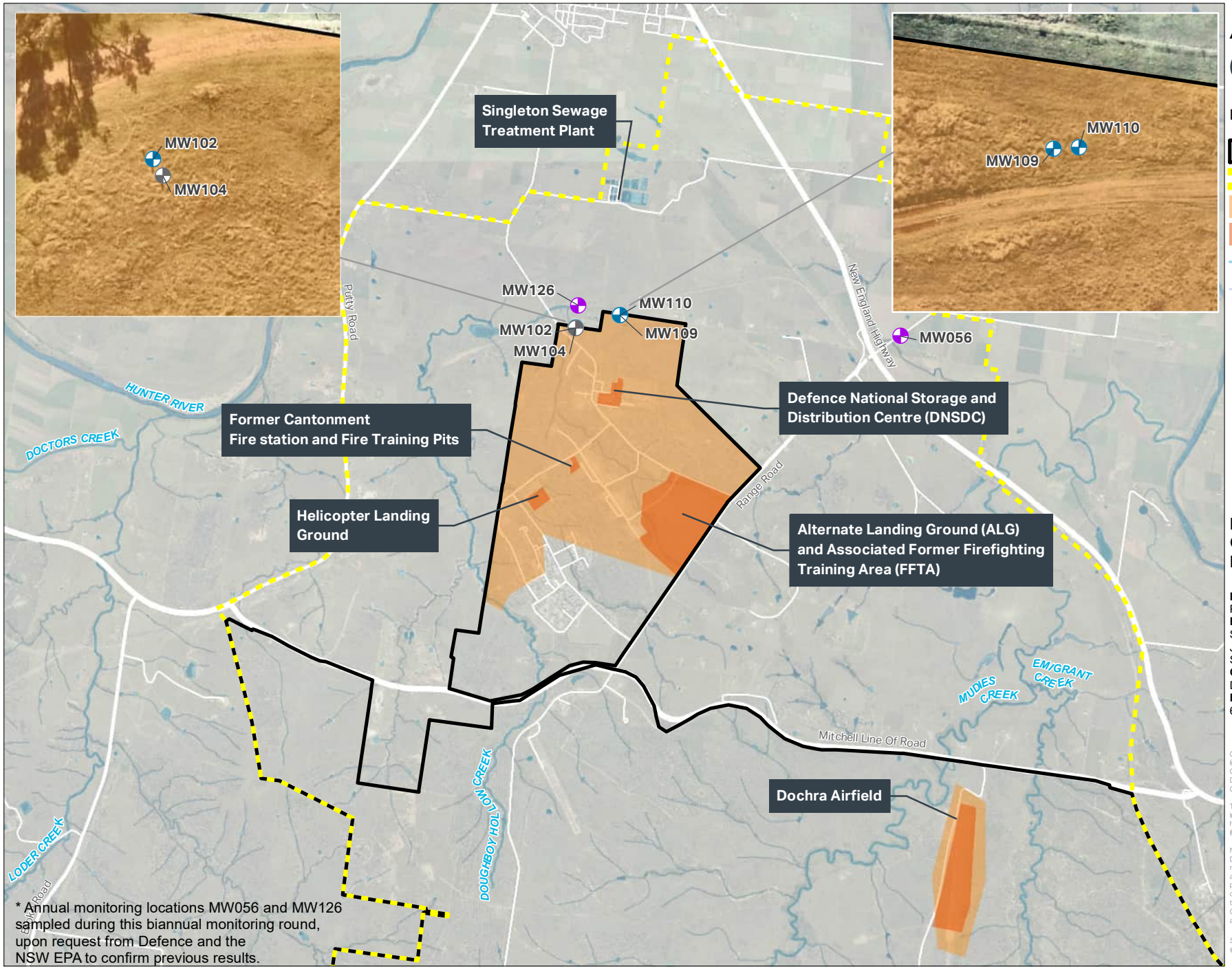


AECOM

N

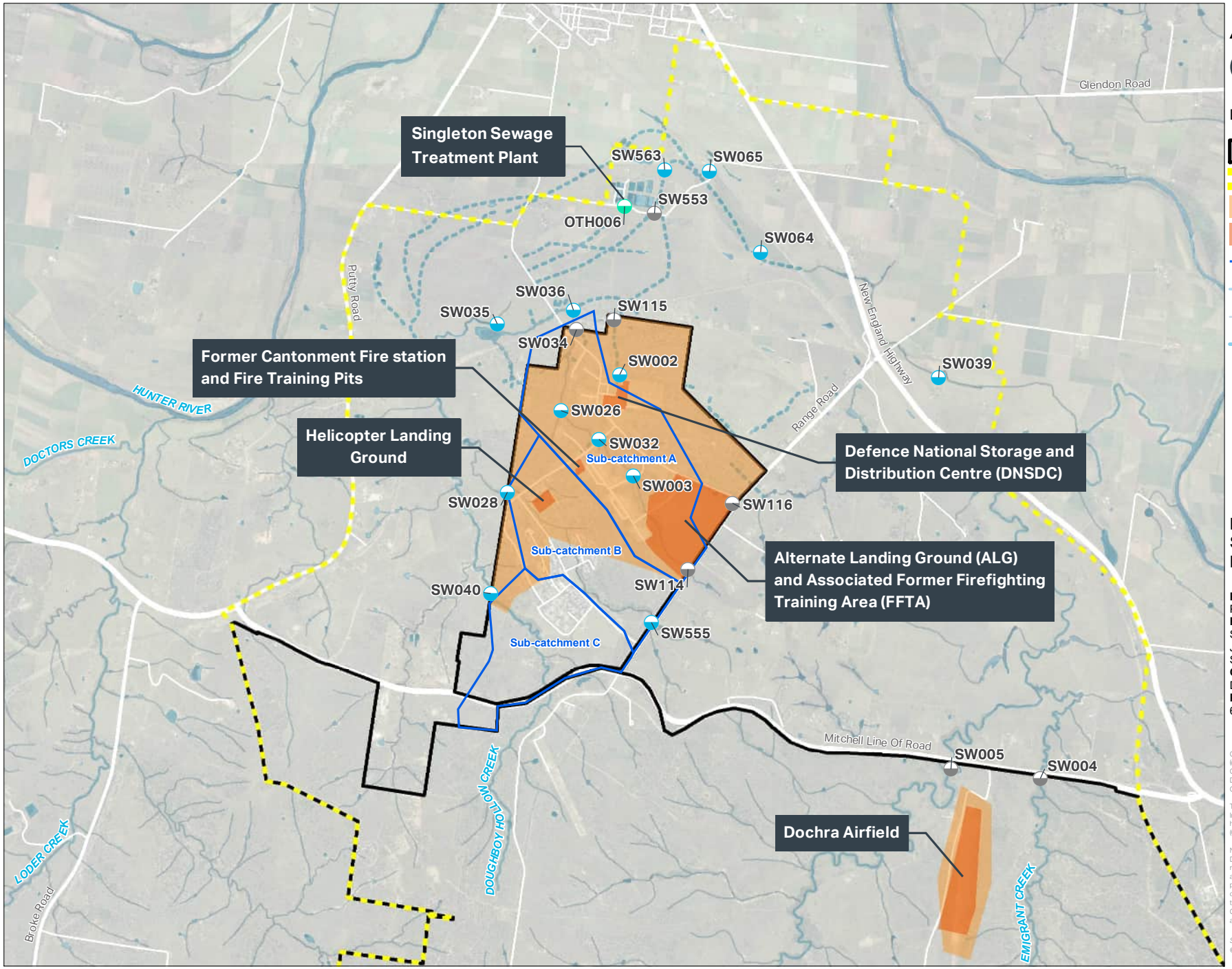
0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Groundwater Location (sampled)
- Groundwater Location (sampled - out of scope visit) *
- Groundwater Location (not sampled)

FIGURE F2:
GROUNDWATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562



AECOM

N

0 0.5 1 km

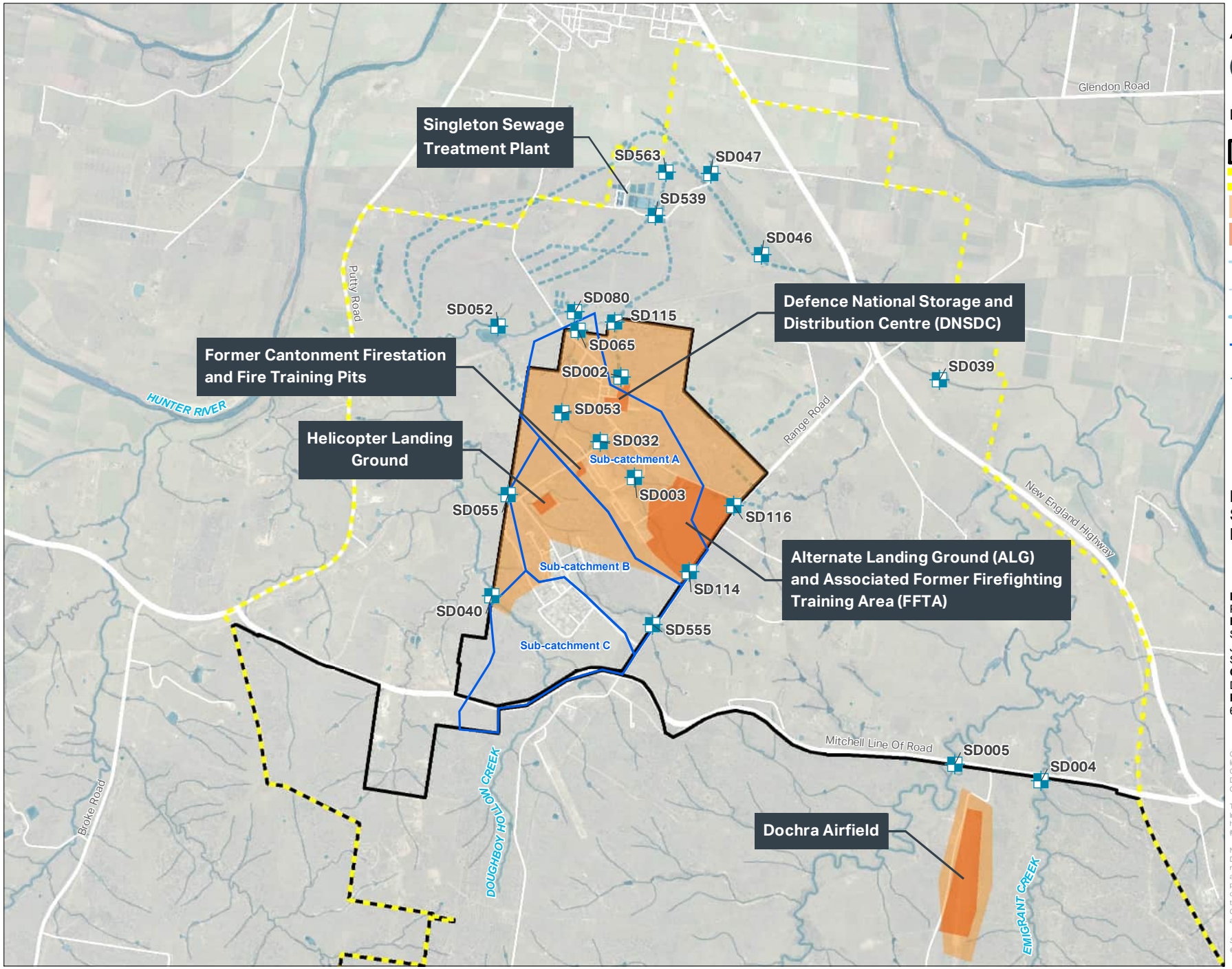
Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Surface Water Location (sampled)
- Surface Water Location (not sampled)
- Wastewater Location (sampled)

FIGURE F3:
SURFACE WATER SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
© Department of Customer Service 2020



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Catchment Boundaries
- Sediment Location (sampled)

FIGURE F4:
SEDIMENT SAMPLE LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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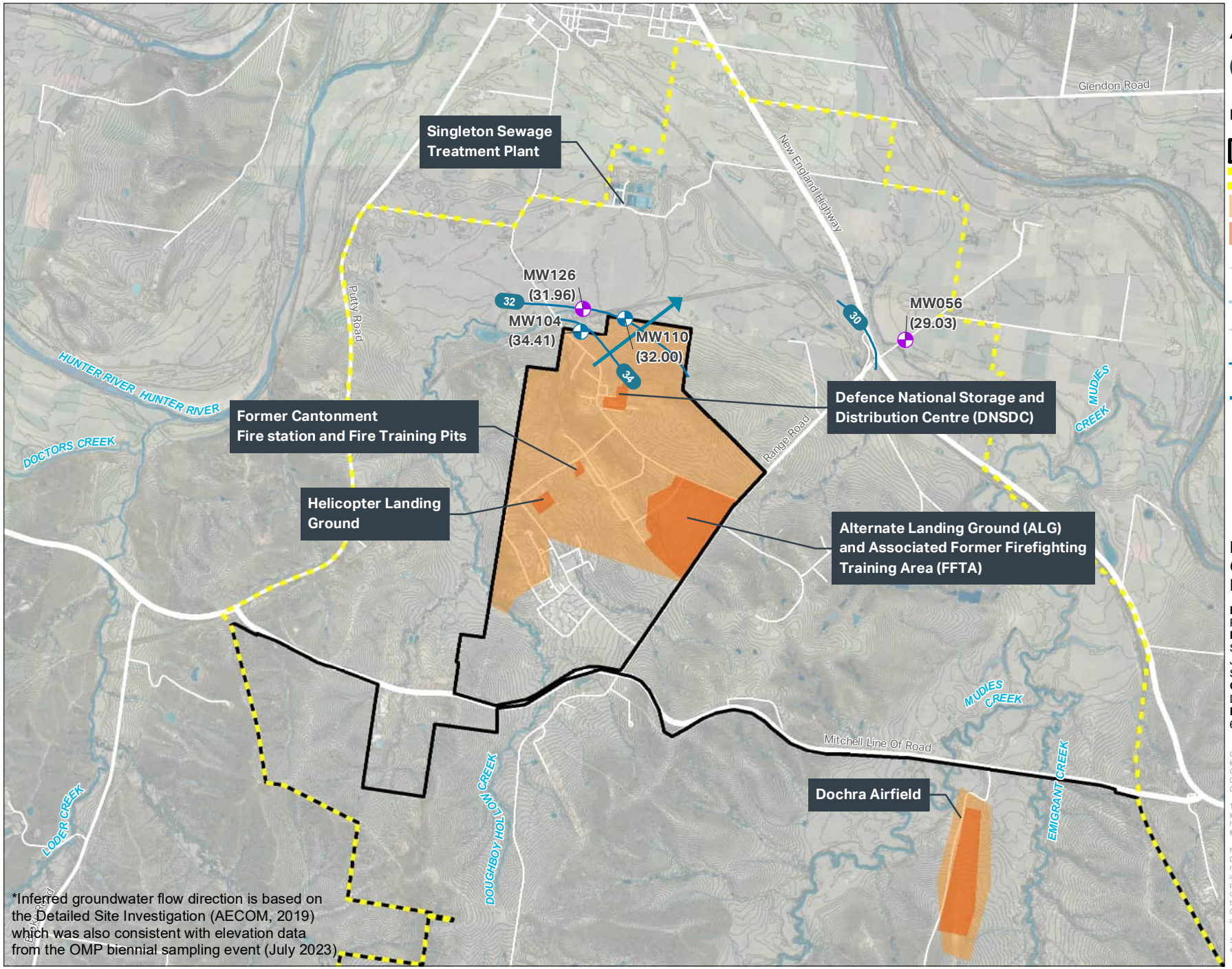

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- 1 m AHD Topographical Contour
- Watercourse
- Drainage line
- Groundwater Elevation Contour (m AHD)
- Inferred Groundwater Flow
- Groundwater Location (gauged)
- Groundwater Location (gauged- out of scope visit)

FIGURE F5:
GROUNDWATER ELEVATION PLAN - SHALLOW

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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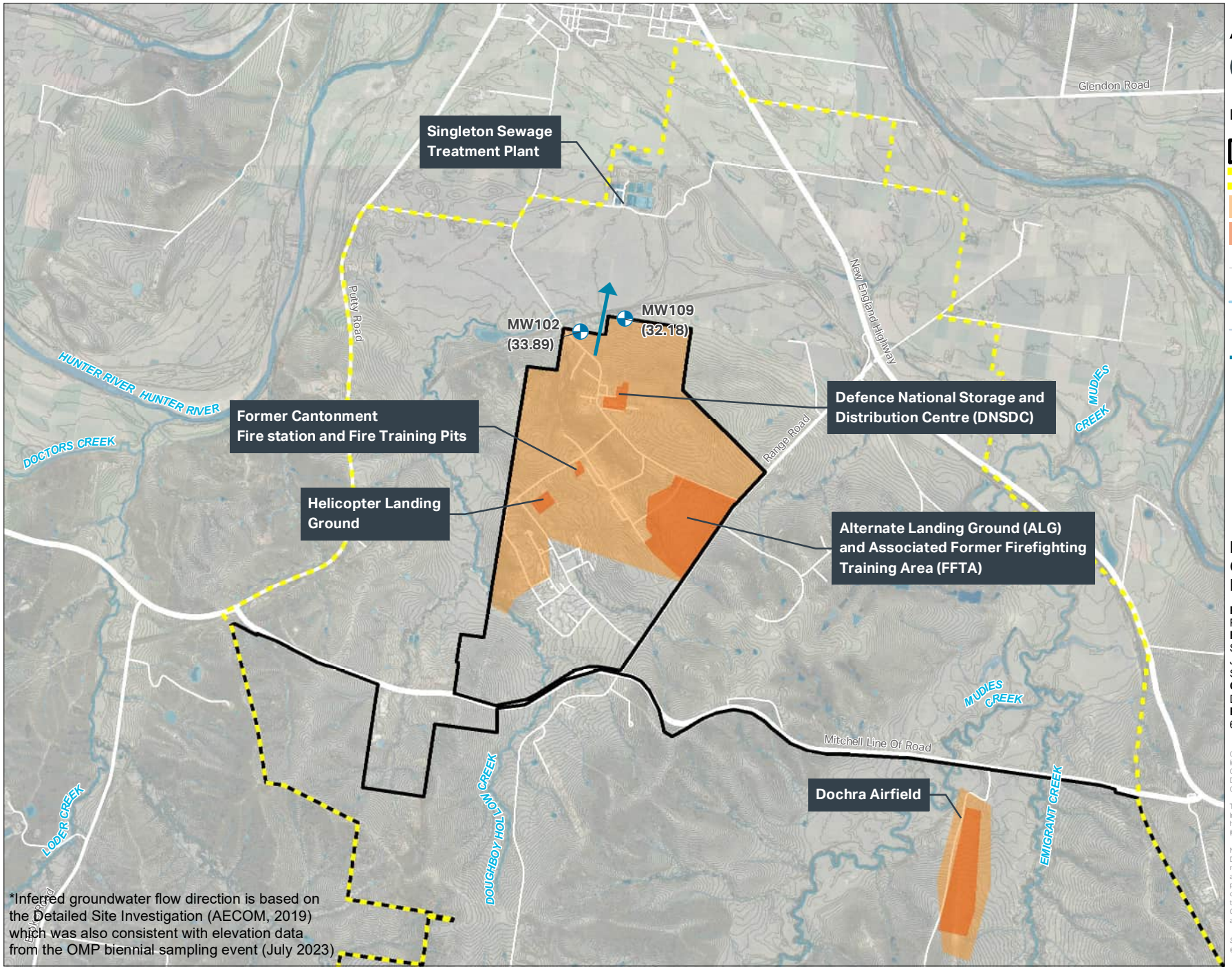

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- 1 m AHD Topographical Contour
- Watercourse
- Drainage line
- Inferred Groundwater Flow
- Groundwater Location (gauged)

FIGURE F6:
GROUNDWATER ELEVATION PLAN - DEEP

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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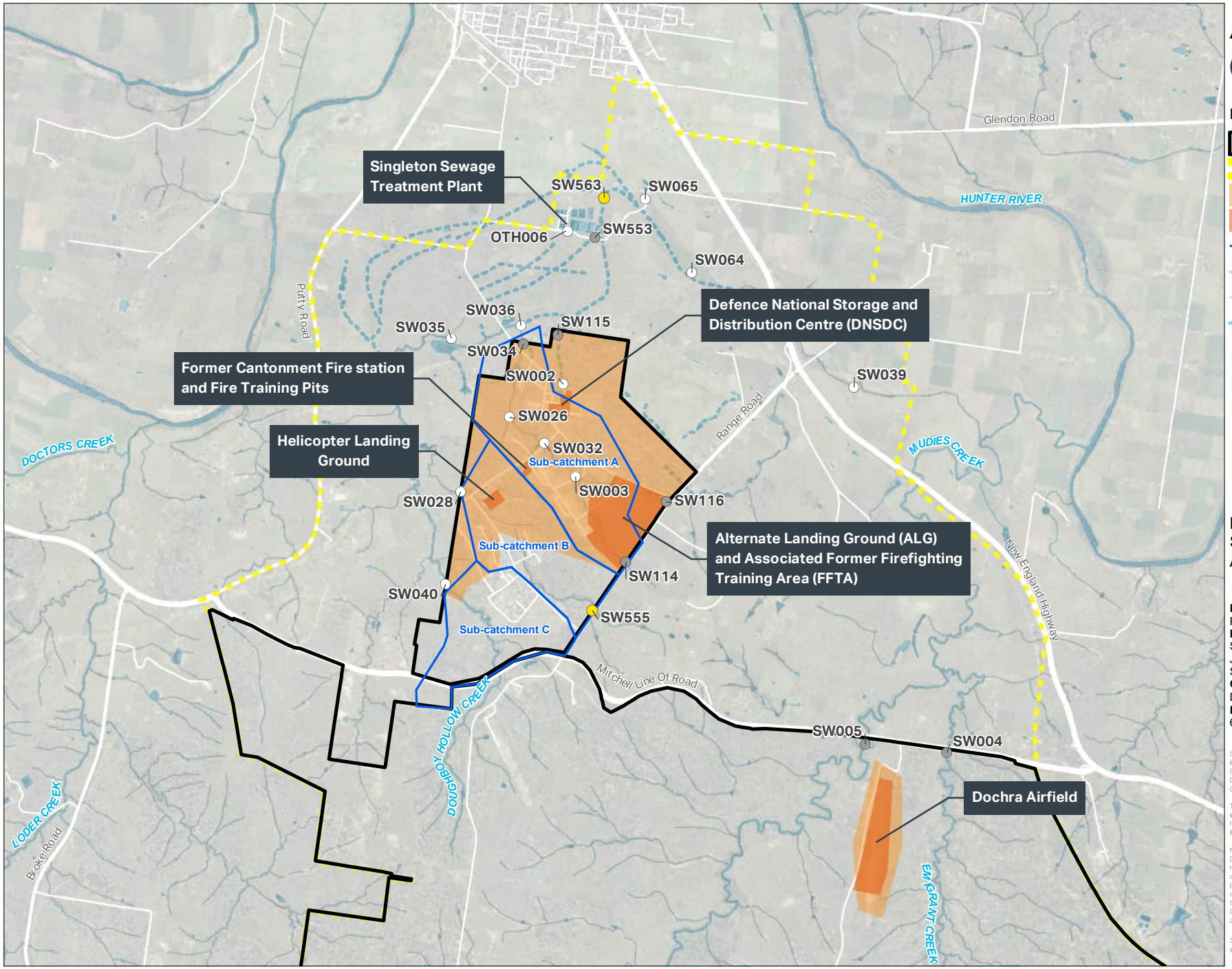

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Catchment Boundaries
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Sampled, No First Time Detection or Exceedance
- New Exceedence of Human Health and/or Ecological Screening Criteria for PFOS, PFOS+PFHxS and/or PFOA
- Location Not Accessed and/or Sampled

FIGURE F7:
SURFACE WATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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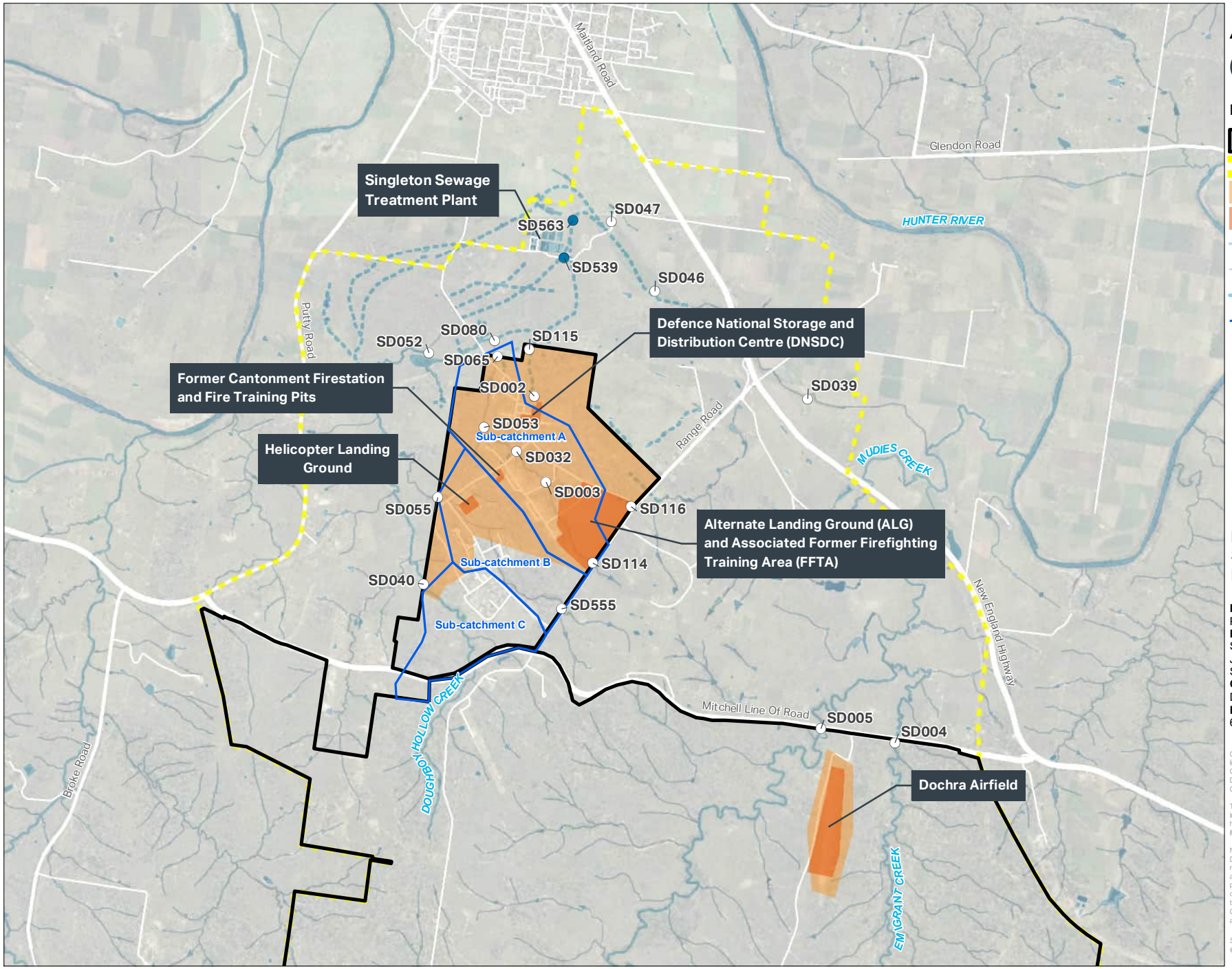

AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Former Investigation Area
- On-site Management Area
- PFAS Source Areas
- Watercourse
- Drainage line
- Undefined Drainage Lines
- Catchment Boundaries
- First-time detection of PFOS+PFHxS, PFOS and/or PFOA
- Sampled, no first time detection or exceedance

FIGURE F8:
SEDIMENT ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
January 2024
Singleton Military Area (0356)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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Appendix B

Tables

Table T1 - Groundwater Gauging and Observations

Location Code	Alternative Name	Top of Casing (mAHD)	Top Screen (mbTOC)	Bottom Screen (mbTOC)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit/Gauging Comment
MW056	GW12, MW12S	34.71	5.3	8.3	5.7	24/01/2024 8:02	5.685	29.025	8.29	Good condition.
MW102	GW02D	46.82	13.5	16.5	13.0	23/01/2024 12:50	12.930	33.890	16.78	Good condition.
MW104	GW02S	46.72	10	13	-	23/01/2024 13:00	12.315	34.405	12.44	Good condition. Insufficient water, not sampled.
MW109	GW03D	45.1	24.5	30	29.0	23/01/2024 12:30	12.920	32.180	30.27	Good condition.
MW110	GW03S	45.4	12.4	14.9	13.5	23/01/2024 12:20	13.400	32.000	14.84	Good condition.
MW126	GW08S	42.78	10.5	13.5	10.9	24/01/2024 11:00	10.820	31.960	12.12	Good condition.

Notes

mbTOC	meters below Top of Casing
mAHD	meters Australian Height Datum
n/a	Not applicable
-	Not measured

Table T2 - Groundwater Quality Parameters and Observations

				Water Quality Parameters					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
				mg/L	°C	µS/cm	pH Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Sample Comments**						
MW056	GW12, MW12S	24 Jan 2024	Clear, no turbidity, no odour, no sheen.	2.78	20.3	3281	7.13	106.7	312.5
MW102	GW02D	23 Jan 2024	Clear, no turbidity, no odour, no sheen.	0.98	24.0	23,379	6.56	-120.3	85.5
MW104	GW02S	23 Jan 2024	Insufficient water to sample.	n/a	n/a	n/a	n/a	n/a	n/a
MW109	GW03D	23 Jan 2024	Light grey, low/medium turbidity, organic odour, no sheen.	0.57	22.4	18,983	6.75	-112.3	93.5
MW110	GW03S	23 Jan 2024	Light grey, low turbidity, no odour, no sheen.	0.98	26.0	20,634	6.89	40.0	245.8
MW126	GW08S	24 Jan 2024	Light brown, medium turbidity, no odour, no sheen.	2.10	25.1	5556	6.98	53.9	259.7

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts
Corrected field Redox measurement Eh = Er + 205.8	
n/a	not applicable

Table T3 - Surface Water and Wastewater Quality Parameters and Observations

							Water Quality Parameters					
							Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
							mg/L	°C	µS/cm	pH Units	mV	mV
Location Code	**Location Alt. Name**	**Date**	**Location Comments**	**Sample Depth (m)**	**Sample Comments**							
SW002	SW002	23 Jan 2024	Dam. Approximately 20 m wide. Approximately 0.5 m deep. Algae present on water surface. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, organic sheen.		0.54	24.3	192.7	6.31	-130.7	75.1
SW003	SW003	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.		3.51	24.4	130.0	7.41	98.3	304.1
SW004	SW004	24 Jan 2024	Dam (running into creek). Approximately 10 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW005	SW005	24 Jan 2024	Creek. Approximately 2 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW026	SMA13_SW	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. Waters stagnant - nearly dry. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.		3.51	24.4	386.5	9.06	98.3	304.1
SW028	SMA7_SW	23 Jan 2024	Creek. Approximately 1 m wide. Approximately 1 m deep. No water flow observed.	0.4 - 0.5	Light brown, low turbidity, no odour, no sheen.		1.23	24.7	125.3	6.04	154.8	360.6
SW032	SW032	23 Jan 2024	Drain (running into creek). Approximately 3 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.		4.54	25.5	53.5	6.59	120.4	326.2
SW034	SMA8_SW	23 Jan 2024	Creek. Approximately 2 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW035	RESI_SW035	24 Jan 2024	Dam. Approximately 15 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.		5.34	27.5	1584.0	7.11	101.1	306.9
SW036	RESI_SW036	24 Jan 2024	Dam. Approximately 10 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Brown, high turbidity, organic odour, no sheen.		7.54	28.3	647.0	8.33	41.8	247.6
SW039	RESI_SW039	24 Jan 2024	Dam. Approximately 15 m wide. Approximately 1 m deep. No water flow observed.	0.4 - 0.5	Clear, no turbidity, no odour, no sheen.		2.60	24.8	881.0	7.54	72.0	277.8
SW040	SW040	23 Jan 2024	Creek. Approximately 1 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.		3.81	26.4	3540.0	7.25	139.3	345.1
SW064	RESI_SW041	24 Jan 2024	Dam. Approximately 20 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Brown, medium turbidity, organic odour, no sheen.		5.03	32.9	724.0	7.52	135.3	341.1
SW065	RESI_SW042	24 Jan 2024	Drain (running into creek). Approximately 2 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.		3.51	33.3	669.0	7.62	132.0	337.8
SW114		23 Jan 2024	Drain (running into creek). Approximately 1 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW115		23 Jan 2024	Creek. Approximately 5 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW116		23 Jan 2024	Drain (running into creek). Approximately 1 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW553		24 Jan 2024	Drain (running into creek). Approximately 2 m wide. Dry.	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a
SW555		23 Jan 2024	Drain (running into creek). Approximately 2 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, low turbidity, no odour, no sheen.		2.72	23.6	926.0	7.56	-8.9	196.9
SW563		24 Jan 2024	Dam. Approximately 10 m wide. Approximately 0.5 m deep. No water flow observed.	0.2 - 0.3	Light brown, medium turbidity, no odour, no sheen.		5.24	31.5	641.0	9.37	91.8	297.6
OTH006		24 Jan 2024	Effluent wastewater pit. Approximately 1 m wide, 4 m deep. Water approximately 0.25 m deep. Water flow observed.	0.1	White/cloudy, medium turbidity, organic odour, no sheen. Geochemical parameters not required.		n/a	n/a	n/a	n/a	n/a	n/a

Notes

°C	degrees Celsius
µS/cm	microSiemens per centimetre
mg/L	milligrams per Litre
mV	milliVolts
Corrected field Redox measurement Eh = Er + 205.8	
n/a	not applicable

Table T4 - Sediment Observations

Location Code	Location Alt. Name	Date	Sample Depth (m)	Sample Comments
SD002	SD002	23 Jan 2024	0.2 - 0.3	Silty CLAY: brown/grey, fine grain, high plasticity, trace rootlets, moist. No odour or staining.
SD003	SD003	23 Jan 2024	0.2 - 0.3	Silty CLAY with gravels: brown, fine grain, high plasticity, trace rootlets, gravel <2 cm, sub-rounded to sub-angular, saturated. No odour or staining.
SD004		23 Jan 2024	0.1 - 0.2	Silty CLAY: dark brown/black, fine grain, medium plasticity, hard, moist, trace organic material (i.e. red-stained rootlets), dry. No odour or staining.
SD005		24 Jan 2024	0.2 - 0.3	CLAY: light brown, fine to coarse grain, no plasticity, dry, trace rootlets. No odour or staining.
SD032	SD032	23 Jan 2024	0.2 - 0.3	Clayey SAND with gravels: brown, fine grain, medium plasticity, trace rootlets, saturated, gravels <2 cm, sub-angular to sub-rounded. No odour or staining.
SD039	RESI_SD039	24 Jan 2024	0.1 - 0.2	Silty CLAY: brown, fine grain, trace rootlets, moist. No odour or staining.
SD040	SD040	24 Jan 2024	0.2 - 0.3	CLAY: light brown, fine to coarse grain, no plasticity, dry, trace rootlets. No odour or staining.
SD046	RESI_SD041	24 Jan 2024	0.2 - 0.3	Silty CLAY: brown, fine grain, low plasticity, saturated, trace rootlets. Organic odour.
SD047	RESI_SD042	24 Jan 2024	0.2 - 0.3	Sandy GRAVEL: brown/yellow/black, fine to coarse grain, gravels <2 cm, sub-rounded to sub-angular. No odour no staining.
SD052	RESI_SD035	24 Jan 2024	0.2 - 0.3	Silty CLAY: black, fine grain, trace rootlets, medium plasticity, saturation. Organic odour.
SD053	SMA13_SD	23 Jan 2024	0.2 - 0.3	Sandy CLAY with gravels: dark brown/black, fine grain, high plasticity, trace rootlets, gravels <2 cm, sub-angular to sub-rounded, saturated. No odour or staining.
SD055	SMA7_SD	23 Jan 2024	0.2 - 0.3	Silty CLAY: dark brown, fine grain, high plasticity, trace rootlets, moist. No odour or staining.
SD065	SMA8_SD	23 Jan 2024	0.2 - 0.3	Silty SAND: brown, fine grain, trace rootlets, dry. No odour or staining.
SD080	RESI_SD013	24 Jan 2024	0.2 - 0.3	Silty CLAY: grey, fine grain, high plasticity, trace rootlets, saturated. Organic odour.
SD114		23 Jan 2024	0.2 - 0.3	Silty SAND: dark brown with orange mottling, fine grain, high plasticity, trace organic material (i.e. dead grass), dry. No odour or staining.
SD115		23 Jan 2024	0.2 - 0.3	Silty SAND: brown, fine grain, trace rootlets, dry. No odour or staining.
SD116		23 Jan 2024	0.2 - 0.3	Silty CLAY: brown, fine grain, medium plasicity, trace rootlets, dry. No odour or staining.
SD539		24 Jan 2024	0.2 - 0.3	Silty CLAY with organic material: brown, fine to coarse grain, low plasticity, dry, rootlets and organic materials (i.e. dead grass). No odour or staining.
SD555		23 Jan 2024	0.2 - 0.3	Silty CLAY: dark brown/black, fine grain, high plasticity, trace rootlets, saturated. Organic odour.
SD563		24 Jan 2024	0.2 - 0.3	Silty sandy CLAY: dark brown with orange mottling, fine grain, medium plasticity, damp. No odour or staining.

Table T5 - Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																															
MW056	24 Jan 2024	0356_MW056_240124	Normal	ES2402506		<0.01	*0.08*	0.02	**0.1**	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	23 Jan 2024	0356_MW102_240123	Normal	ES2402575		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_MW109_240123	Normal	ES2402575		<0.01	*0.05*	0.06	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC102_240123	Field_D	ES2402575		<0.01	*0.02*	0.03	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC202_240123	Interlab_D	342545		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW110	23 Jan 2024	0356_MW110_240123	Normal	ES2402575		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	24 Jan 2024	0356_MW126_240124	Normal	ES2402508		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes:

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR
	Denotes new exceedence of human health or ecological screening criteria

				PFAS				PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
				Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water				**10**			**2**																										
PFAS NEMP 2020 Freshwater 99%				*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																													
OTH006	24 Jan 2024	0356_OTH006_240124	Normal	ES2402510	<0.01	*0.12*	0.03	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	23 Jan 2024	0356_SW002_240123	Normal	ES2402575	0.04	*0.78*	0.45	1.23	1.37	<0.02	<0.02	0.03	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	23 Jan 2024	0356_SW003_240123	Normal	ES2402575	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	23 Jan 2024	0356_SW026_240123	Normal	ES2402575	0.02	*0.89*	0.32	1.21	1.28	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	23 Jan 2024	0356_QC100_240123	Field_D	ES2402575	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	23 Jan 2024	0356_QC200_240123	Interlab_D	342545	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	23 Jan 2024	0356_SW028_240123	Normal	ES2402575	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	23 Jan 2024	0356_SW032_240123	Normal	ES2402575	<0.01	*0.32*	0.07	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	24 Jan 2024	0356_SW035_240124	Normal	ES2402508	<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	24 Jan 2024	0356_SW036_240124	Normal	ES2402508	0.03	*0.79*	0.81	1.6	2.02	0.06	0.05	0.02	<0.02	<0.1	0.06	0.16	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	24 Jan 2024	0356_SW039_240124	Normal	ES2402507	<0.01	*0.03*	<0.01	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	23 Jan 2024	0356_SW040_240123	Normal	ES2402575	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	24 Jan 2024	0356_SW064_240124	Normal	ES2402510	<0.01	*0.03*	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	24 Jan 2024	0356_SW065_240124	Normal	ES2402510	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	23 Jan 2024	0356_SW555_240123	Normal	ES2402575	<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	24 Jan 2024	0356_SW563_240124	Normal	ES2402510	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR
	Denotes new exceedence of human health or ecological screening criteria

Table T7 - Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																								
SD002	23 Jan 2024	0356_SD002_240123	Normal	ES2402575		<0.0002	0.0038	0.0005	0.0043	0.0045	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	ES2402575		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	342545		<0.0001	0.0011	<0.0001	0.0011	0.0011	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD003	23 Jan 2024	0356_SD003_240123	Normal	ES2402575		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	ES2402575		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	ES2402575		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	ES2402575		<0.0002	0.0044	0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	ES2402507		<0.0002	0.0036	<0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	23 Jan 2024	0356_SD040_240123	Normal	ES2402575		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	ES2402510		<0.0002	0.007	<0.0002	0.007	0.007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	ES2402510		<0.0002	0.0014	<0.0002	0.0014	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	ES2402508		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	ES2402575		<0.0002	0.0016	0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	ES2402575		<0.0002	0.0049	<0.0002	0.0049	0.0065	<0.0002	<0.0002	<0.0002	0.0013	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	342545		<0.0001	0.003	<0.0001	0.003	0.0049	<0.0001	<0.0001	<0.0001	0.002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD055	23 Jan 2024	0356_SD055_240123	Normal	ES2402575		<0.0002	0.005	<0.0002	0.005	0.0067	<0.0002	<0.0002	<0.0002	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	ES2402575		<0.0002	0.0064	0.0007	0.0071	0.0073	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	ES2402508		<0.0002	0.0045	0.0003	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	ES2402575		<0.0002	0.0092	0.0002	0.0094	0.0094	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	ES2402575		<0.0002	0.0114	0.0012	0.0126	0.0129	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	ES2402575		<0.0002	0.0046	0.0002	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	ES2402510		0.0002	0.0244	0.0053	0.0297	0.0307	<0.0002	0.0002	0.0002	<0.0002	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	ES2402575		<0.0002	0.0046	<0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	ES2402510		0.0002	0.0168	<0.0002	0.0168	0.017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**							
SD002	23 Jan 2024	0356_SD002_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	342545	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD003	23 Jan 2024	0356_SD003_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	ES2402507	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	23 Jan 2024	0356_SD040_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	ES2402510	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	ES2402510	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	ES2402508	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	342545	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	23 Jan 2024	0356_SD055_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	ES2402508	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	ES2402510	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	ES2402575	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	ES2402510	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
	Denotes first time detection above LOR

Table T8 - Historical Groundwater Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																									
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW001	08 May 2019	0356_ALG_GW01_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	10 May 2019	0356_ALG_GW03_190510	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW004	08 May 2019	0356_ALG_GW02_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW005	14 May 2019	0356_CNN0018_GW05_190514	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW006	14 May 2019	0356_CNN0018_GW06_190514	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW007	14 May 2019	0356_CNN0018_GW07_190514	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	15 May 2019	0356_CNN0018_GW08_190515	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	21 Jul 2022	0356_MW008_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW010	05 Oct 2018	0356_CNN0018_GW01_181005	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW010	28 Feb 2019	0356_CNN0018_GW01_190228	Normal	NSW_0356_PFAS		<0.002	*0.006*	0.003	0.009	0.083	0.017	0.002	<0.002	<0.002	<0.01	0.016	0.016	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.023	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW010	15 May 2019	0356_CNN0018_GW01_190515	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.06	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	05 Oct 2018	CNN0018_GW02_181005	Normal	NSW_0356_PFAS		<0.05	*0.12*	0.3	-	-	<0.05	0.08	<0.05	<0.05	<0.2	<0.05	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW011	28 Feb 2019	0356_CNN0018_GW02_190228	Normal	NSW_0356_PFAS		0.004	*0.029*	0.054	**0.083**	0.176	0.019	0.008	0.002	<0.002	<0.01	0.008	0.035	0.003	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.014	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW011	15 May 2019	0356_CNN0018_GW02_190515	Normal	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC145_GW_190515	Field_D	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	15 May 2019	0356_QC245_GW_190515	Field_D	NSW_0356_PFAS		<0.01	*0.03*	0.06	**0.09**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW011	21 Jul 2022	0356_MW011_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.04	0.07	<0.02	<0.02	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	04 Oct 2018	GW_QC103_181004	Field_D	NSW_0356_PFAS		**2.91**	*89.4*	38.8	-	-	3.83	3.59	2.36	<0.02	<0.1	1.77	9.43	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	05 Oct 2018	0356_GW_QC203_181005	Interlab_D	NSW_0356_PFAS		**2.4**	*77*	36	**110**	140	3.9	4.1	2.6	<0.02	1.1	1.7	9.1	1.2	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	0.08	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW012	05 Oct 2018	CNN0018_GW03_181005	Normal	NSW_0356_PFAS		0.49	*14.1*	4.77	-	-	0.47	0.55	0.49	<0.02	<0.1	0.17	1.24	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	28 Feb 2019	0356_CNN0018_GW03_190228	Normal	NSW_0356_PFAS		**2.48**	*114*	31.1	**145**	167	2.45	3.59	4.21	0.034	0.74	1.14	6.05	0.939	<0.002	0.012	<0.002	<0.002	<0.002	<0.005	<0.005	0.116	0.054	<0.005	0.019	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW012	15 May 2019	0356_CNN0018_GW03_190515	Normal	NSW_0356_PFAS		**2.71**	*105*	37.2	**142**	168	3.01	5.68	2.48	<0.02	0.8	1.42	8.02	1.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW013	14 May 2019	0356_CNN0018_GW04_190514	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW013	14 May 2019	0356_QC144_GW_190514	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW013	14 May 2019	0356_QC244_GW_190514	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW014	15 May 2019	0356_GW14S_190515	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW015	14 May 2019	0356_GW15_190514	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	22 Oct 2018	0356_CNN0024_MW7_181022	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW018	22 Oct 2018	0356_QC132_GW_181022	Field_D	NSW_0356_PFAS		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW019	12 Oct 2018	0356_DOCHRA_MW_181012	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW022	10 May 2019	0356_CNN0229_GW02_190510	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW023	18 Oct 2018	0356_CNN0032_MW13_181018	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW023	18 Oct 2018	CNN0032_MW13_181018	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW024	03 Oct 2018	0356_CNN0035_GW02_181003	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW024	28 Feb 2019	0356_CNN0035_GW002_190228	Normal	NSW_0356_PFAS		<0.002	*0.003*	0.004	0.007	0.027	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.02	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW024	10 May 2019	0356_CNN0035_GW02_190510	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW027	05 Jun 2019	0356_CNN0017_GW01_190530	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW029	15 May 2019	0356_CNN0017_GW02_190515	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW036	10 May 2019	0356_CNN0021_GW01_190510	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW036	10 May 2019	0356_QC143_190510	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW036	10 May 2019	0356_QC243_190510	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	0.02	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW048	03 Oct 2018	0356_CNN0039_GW01_181003	Normal	NSW_0356_PFAS		0.03	*0.03*	2.17	-	-	0.17	0.24	<0.02	<0.02	<0.1	0.04	0.21	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	27 Feb 2019	0356_CNN0039_GW01_190227	Normal	NSW_0356_PFAS		0.042	*0.03*	2.68	**2.71**	3.96	0.293	0.461	0.017	<0.002	<0.01	0.067	0.299	0.051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.016	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW048	10 May 2019	0356_CNN0039_GW01_190510	Normal	NSW_0356_PFAS		0.03	*0.02*	2.26	**2.28**	2.88	0.16	0.24	<0.02	<0.02	<0.1	<0.02	0.15	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_MW048_220721	Normal	NSW_0356_PFASOMP_22		0.05	*0.02*	2.26	**2.28**	3.14	0.15	0.31	<0.02	<0.02	<0.1	0.04	0.27	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC103_220721	Field_D	NSW_0356_PFASOMP_22		0.05	*0.02*	2.24	**2.26**	3.15	0.19	0.31	<0.02	<0.02	<0.1	0.06	0.24	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW048	21 Jul 2022	0356_QC203_220721	Interlab_D	NSW_0356_PFASOMP_22		0.06	*0.02*	2.6	**2.7**	3.6	0.21	0.31	0.02	<0.02	0.04	0.05	0.23	0.05	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW049	03 Oct 2018	0356_CNN0039_GW02_181003	Normal	NSW_0356_PFAS		0.06	*1.12*	1.26	-	-	0.07	0.09	0.1	<0.02	<0.1	0.03	0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW049	27 Feb 2019	0356_CNN0039_GW02_190227	Normal	NSW_0356_PFAS		0.169	*6.45*	3.97	**10.4**	11.9	0.204	0.316	0.339	<0.002	<0.01	0.057	0.36	0.048	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.03	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW049	10 May 2019	0356_CNN0039_GW02_190510	Normal	NSW_0356_PFAS		0.09	*2.13*	3.16	**5.29**	6.21	0.15	0.26	0.14	<0.02	<0.1	<0.02	0.25	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	07 May 2019	0356_CNN0039_GW03_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW050	21 Jul 2022	0356_MW050_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW051	08 May 2019	0356_CNN0039_GW04_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	10 May 2019	0356_CNN0039_GW05_190510	Normal	NSW_0356_PFAS		0.03	*0.42*	0.53	**0.95**	1.09	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW052	21 Jul 2022	0356_MW052_220721	Normal	NSW_0356_PFASOMP_22		0.02	*0.38*	0.28	**0.66**	0.79	<0.02	0.02	<0.02	<0.02	<0.1	0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW053	08 May 2019	0356_CNN0039_GW06_190508	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW054	10 May 2019	0356_CNN0039_GW07_190510	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

				PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides						
				Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water				**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%				*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																													
MW054	20 Oct 2020	0356-CNN0039-GW-201020	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	08 May 2019	0356_GW12_190508	Normal	NSW_0356_PFAS	<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	30 May 2019	0356_GW12_190530	Normal	NSW_0356_PFAS	<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	19 Jul 2023	0356_MW056_230719	Normal	NSW_0356_PFASOMP_23	<0.01	*0.12*	0.04	**0.16**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251125	Normal	NSW_0356_PFASOMP_23	<0.01	*0.09*	0.03	**0.12**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_MW056_2310251200	Normal	NSW_0356_PFASOMP_23	<0.01	*0.06*	0.04	**0.1**	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	25 Oct 2023	0356_QC101_231025	Field_D	NSW_0356_PFASOMP_23	<0.01	*0.1*	0.03	**0.13**	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW056	24 Jan 2024	0356_MW056_240124	Normal	NSW_0356_PFASOMP_24	<0.01	*0.08*	0.02	**0.1**	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW058	08 May 2019	0356_HLG_GW02_190508	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	08 May 2019	0356_HLG_GW03_190508	Normal	NSW_0356_PFAS	<0.01	*0.04*	0.04	**0.08**	0.08	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW059	21 Jul 2022	0356_MW059_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW062	07 Feb 2019	0356_NSW1164_MW01S_190207	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW062	09 May 2019	0356_NSW1164_MW01S_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW062	07 Feb 2019	0356_NSW1164_MW02D_190206	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.07	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW069	09 May 2019	0356_NSW1164_MW02D_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW070	06 Feb 2019	0356_NSW1164_MW02S_190206	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW070	09 May 2019	0356_NSW1164_MW02S_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	06 Feb 2019	0356_NSW1164_MW03D_190206	Normal	NSW_0356_PFAS	<0.05	*0.08*	<0.05	**0.08**	0.15	0.07	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW071	09 May 2019	0356_NSW1164_MW03D_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW071	19 Jul 2022	0356_MW071_220719	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	06 Feb 2019	0356_NSW1164_MW03S_190206	Normal	NSW_0356_PFAS	<0.01	*0.01*	<0.02	0.01	1.52	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	09 May 2019	0356_NSW1164_MW03S_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	19 Jul 2022	0356_MW073_220719	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW074	07 Feb 2019	0356_NSW1164_MW04_190207	Normal	NSW_0356_PFAS	<0.05	*0.06*	<0.05	0.06	0.11	0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW074	09 May 2019	0356_NSW1164_MW04_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW075	07 Feb 2019	0356_NSW1164_MW05_190207	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.67	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.67	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW075	09 May 2019	0356_NSW1164_MW05_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW076	07 Feb 2019	0356_NSW1164_MW06_190207	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW076	07 Feb 2019	0356_QC200_GW_190207	Interlab_D	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW076	09 May 2019	0356_NSW1164_MW06_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW077	07 Feb 2019	0356_NSW1164_MW07_190207	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.13	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW077	09 May 2019	0356_NSW1164_MW07_19050509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW078	07 Feb 2019	0356_NSW1164_MW08_190207	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW078	07 Feb 2019	0356_QC100_GW_190207	Field_D	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW078	09 May 2019	0356_NSW1164_MW08_190509	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW081	27 Sep 2018	0356_RESI_GW001_180927	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW081	27 Sep 2018	0356_RESI_QC100_180927	Field_D	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW082	18 Oct 2018	0356_RESI_GW003_181018	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW083	19 Oct 2018	0356_QC130_181019	Field_D	NSW_0356_PFAS	<0.01	*0.02*	0.03	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW083	19 Oct 2018	0356_RESI_GW04_181019	Normal	NSW_0356_PFAS	<0.01	*0.02*	0.03	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW084	19 Oct 2018	0356_QC230_181019	Interlab_D	NSW_0356_PFAS	<0.01	<0.01	<0.01	<0.01	1.1	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	1.1	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW084	19 Oct 2018	0356_QC230_181019	Interlab_D	NSW_0356_PFAS	<0.01	<0.01	<0.01	<0.01	1.1	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	1.1	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW084	19 Oct 2018	0356_RESI_GW005_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	1.06	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW085	19 Oct 2018	0356_RESI_GW006_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW086	19 Oct 2018	0356_RESI_GW007_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW087	19 Oct 2018	0356_RESI_GW008_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW088	19 Oct 2018	0356_RESI_GW009_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW089	19 Oct 2018	0356_RESI_GW010_181019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW090	16 Nov 2018	0356_RESI_GW012_181116	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW090	16 Nov 2018	0356_RESI_QC131_181116	Field_D	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW091	28 Feb 2019	0356_RESI_GW013_190228	Normal	NSW_0356_PFAS	<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW091	28 Feb 2019	0356_RESI_QC132_190228	Field_D	NSW_0356_PFAS	<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW091	12 Dec 2019	0356_RESI_GW013_191212	Normal	NSW_0356_PFAS	<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

					PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
					Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW094	10 May 2019	0356_GW01D_190510	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW095	10 May 2019	0356_GW01S_190510	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW098	04 Oct 2018	0356_S021_GW01_181004	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW098	27 Feb 2019	0356_S021_GW001_190227	Normal	NSW_0356_PFAS	<0.002	*0.01*	<0.002	0.01	4.58	<0.010	<0.002	<0.002	<0.002	<0.01	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	4.38	0.013	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW098	27 Feb 2019	0356_S021_GW001_190227	Normal	NSW_0356_PFAS	-	-	-	-	-	0.175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.66	-	-	-	-	-	-	-	-	-
MW098	14 May 2019	0356_S021_GW01_190514	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	5.82	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	5.82	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW099	28 May 2020	0356_RESI_GW100_200528	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW100	03 Oct 2018	0356_S023_GW01_181003	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW100	01 Mar 2019	0356_S023_GW01_190301	Normal	NSW_0356_PFAS	<0.002	*0.019*	0.006	0.025	0.169	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.142	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW100	07 May 2019	0356_S023_GW01_190507	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW101	28 May 2019	0356_S033_GW01_190528	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	06 May 2019	0356_GW02D_190506	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	08 May 2019	0356_GW02D_190508	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	20 Oct 2020	0356-GW-02D-201020	Normal	NSW_0356_PFAS	<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	21 Jul 2022	0356_MW102_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_MW102_230118	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_QC104_230118	Field_D	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	18 Jan 2023	0356_QC204_230118	Interlab_D	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.02	<0.05	<0.1
MW102	17 Jul 2023	0356_MW102_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW102	23 Jan 2024	0356_MW102_240123	Normal	NSW_0356_PFASOMP_24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW107	04 Oct 2018	0356_S021_GW02_181004	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW107	27 Feb 2019	0356_S021_GW002_190227	Normal	NSW_0356_PFAS	<0.002	*0.002*	<0.002	0.002	0.08	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.078	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW107	14 May 2019	0356_S021_GW02_190514	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.2	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.2	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	10 May 2019	0356_GW03D_190510	Normal	NSW_0356_PFAS	<0.01	*0.28*	<0.02	**0.28**	1.76	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.48	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	28 May 2019	0356_GW03D_190528	Normal	NSW_0356_PFAS	<0.01	*0.16*	<0.02	**0.16**	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	19 Oct 2020	0356_QC254_201020	Interlab_D	NSW_0356_PFAS	<0.01	<0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW109	20 Oct 2020	0356-GW03D-201020	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	20 Oct 2020	0356-QC154-201020	Field_D	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	21 Jul 2022	0356_MW109_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	18 Jan 2023	0356_MW109_230118	Normal	NSW_0356_PFASOMP_23	<0.01	*0.06*	0.06	**0.12**	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	17 Jul 2023	0356_MW109_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_MW109_240123	Normal	NSW_0356_PFASOMP_24	<0.01	*0.05*	0.06	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC102_240123	Field_D	NSW_0356_PFASOMP_24	<0.01	*0.02*	0.03	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW109	23 Jan 2024	0356_QC202_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.02	<0.05	<0.1
MW110	07 May 2019	0356_GW03S_190507	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.3	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.3	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	20 Oct 2020	0356-GW03S-201020	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	21 Jul 2022	0356_MW110_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	18 Jan 2023	0356_MW110_230118	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	17 Jul 2023	0356_MW110_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW110	23 Jan 2024	0356_MW110_240123	Normal	NSW_0356_PFASOMP_24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	04 Oct 2018	0356_GW_QC202_181004	Interlab_D	NSW_0356_PFAS	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.04	<0.04	<0.02	<0.02	<0.02	<0.04	<0.04	<0.1	<0.2	<1	<0.02	<0.02	<0.02	<0.02	<0.2	<0.1	<0.04	<0.1	<0.2	<0.04	<1
MW113	04 Oct 2018	0356_S021_GW03_181004	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	04 Oct 2018	GW_QC102_181004	Field_D	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	27 Feb 2019	0356_QC100_GW_190227	Field_D	NSW_0356_PFAS	<0.002	<0.002	<0.002	<0.002	0.019	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.019	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW113	27 Feb 2019	0356_S021_GW003_190227	Normal	NSW_0356_PFAS	<0.002	<0.002	<0.002	<0.002	0.02	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.02	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW113	15 May 2019	0356_S021_GW03_190515	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.22	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.22	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	06 May 2019	0356_GW04D_190506	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	20 Oct 2020	0356-GW04D-201020	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	21 Jul 2022	0356_MW114_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW114	17 Jul 2023	0356_MW114_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	06 May 2019	0356_GW04S_190506	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	20 Oct 2020	0356-GW04S-201020	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	21 Jul 2022	0356_MW115_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	17 Jul 2023	0356_MW115_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	06 May 2019	0356_GW05S_190506	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	21 Jul 2022	0356_MW118_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_MW118_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

					PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
					Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW118	17 Jul 2023	0356_QC100_230717	Field_D	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW118	17 Jul 2023	0356_QC200_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	02 May 2019	0356_GW06_190502	Normal	NSW_0356_PFAS	0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	31 May 2019	0356_GW06_190531	Normal	NSW_0356_PFAS	0.01	<0.01	<0.02	<0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	19 Oct 2020	0356_GW06_201019	Normal	NSW_0356_PFAS	0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_MW121_220722	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC106_220722	Field_D	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW121	22 Jul 2022	0356_QC206_220722	Interlab_D	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW121	19 Jul 2023	0356_MW121_230719	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	02 May 2019	0356_GW07_190502	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	31 May 2019	0356_GW07_190531	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Oct 2020	0356_GW07_201019	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	20 Jul 2022	0356_MW124_220720	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	0.07	0.07	0.07	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW124	19 Jul 2023	0356_MW124_230719	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	03 May 2019	0356_GW08S_190503	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW126	22 Jul 2022	0356_MW126_220722	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	22 Jul 2022	0356_QC100_220722	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	0.03	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	18 Jul 2023	0356_MW126_230718	Normal	NSW_0356_PFASOMP_23	<0.01	*0.22*	0.02	**0.24**	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310250850	Normal	NSW_0356_PFASOMP_23	<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_MW126_2310251035	Normal	NSW_0356_PFASOMP_23	<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	25 Oct 2023	0356_QC100_231025	Field_D	NSW_0356_PFASOMP_23	<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW126	24 Jan 2024	0356_MW126_240124	Normal	NSW_0356_PFASOMP_24	<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	03 May 2019	0356_GW09S_190503	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	30 May 2019	0356_GW09S_190530	Normal	NSW_0356_PFAS	<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	22 Jul 2022	0356_MW128_220722	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW128	18 Jul 2023	0356_MW128_230718	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	03 May 2019	0356_GW10S_190503	Normal	NSW_0356_PFAS	<0.01	<0.01	0.04	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW129	30 May 2019	0356_GW10S_190530	Normal	NSW_0356_PFAS	<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW131	20 May 2019	0356_GW11_190520	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW132	06 Nov 2018	0356_RESI_GW011_181106	Normal	NSW_0356_PFAS	<0.01	*0.02*	0.03	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	07 May 2019	0356_RESI_GW011_190507	Normal	NSW_0356_PFAS	<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW132	19 Jul 2022	0356_MW132_220719	Normal	NSW_0356_PFASOMP_22	<0.01	*0.03*	0.03	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW135	15 May 2019	0356_GW13D_190515	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	0.26	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.26	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Dec 2018	0356_RESI_GW013_181218	Normal	NSW_0356_PFAS	0.02	*0.03*	0.08	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	08 May 2019	0356_RESI_GW013_190508	Normal	NSW_0356_PFAS	<0.01	*0.03*	0.08	**0.11**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	28 May 2020	0356_RESI_GW013_200528	Normal	NSW_0356_PFAS	0.02	*0.04*	0.06	**0.1**	0.12	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW139	18 Jul 2023	0356_MW139_230718	Normal	NSW_0356_PFASOMP_23	<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW144	21 Apr 2020	0356_RESI_GW14_200421	Normal	NSW_0356_PFAS	<0.01	*0.02*	<0.02	0.02	-	<0.02	-	-	-	<0.1	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-
MW147	28 Sep 2018	0356_RESI_GW002_180928	Normal	NSW_0356_PFAS	<0.01	*0.03*	<0.02	-	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW148	10 Oct 2018	CNN0014_GW01_181010	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW154	18 Oct 2018	0356_CNNN0024_MW2_181018	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW154	18 Oct 2018	0356_CNNN0024_MW2_181018	Normal	NSW_0356_PFAS	-	*0.32*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	18 Oct 2018	CNN0024_MW2_181018	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW156	18 Oct 2018	0356_CNN0030_MW1_181018	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW156	18 Oct 2018	CNN0030_MW1_181018	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW157	10 Oct 2018	CNN0034_GW01_181010	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW158	10 Oct 2018	CNN0034_GW02_181010	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW159	10 Oct 2018	0356_CNN0034_GW03_181010	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW161	02 Oct 2018	0356_CNN0036_GW01_181002	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW162	02 Oct 2018	0356_CNN0036_GW02_181002	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW163	02 Oct 2018	0356_CNN0036_GW03_181002	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW166	03 Oct 2018	0356_CNN0229_GW01_181003	Normal	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW166	03 Oct 2018	0356_GW_QC200_181003	Interlab_D	NSW_0356_PFAS	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.02	<0.04	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	0.1	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW166	03 Oct 2018	GW_QC100_181003	Field_D	NSW_0356_PFAS	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW166	28 Feb 2019	0356_CNN0229_GW01_190228	Normal	NSW_0356_PFAS	<0.002	<0.002	<0.002	<0.002	0.023	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.022	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW166	28 Feb 2019	0356_QC101_GW_190228	Field_D	NSW_0356_PFAS	<0.002	<0.002	<0.002	<0.002	0.022	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.022	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW166	07 May 2019	0356_CNN0229_GW01_190507	Normal	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW166	07 May 2019	0356_QC142_190507	Field_D	NSW_0356_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T8 - Historical Groundwater Analytical Results

						PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
						Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																									
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW167	02 Oct 2018	0356_CNN0230_GW01_181002	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW167	01 Mar 2019	0356_CNN0230_GW01_190301	Normal	NSW_0356_PFAS		<0.002	*0.012*	<0.002	0.012	0.36	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.348	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW167	15 May 2019	0356_CNN0230_GW01_190515	Normal	NSW_0356_PFAS		<0.01	*0.21*	0.02	**0.23**	0.74	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.51	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW167	21 Jul 2022	0356_MW167_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW168	02 Oct 2018	0356_CNN0230_GW02_181002	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW168	01 Mar 2019	0356_CNN0230_GW02_190301	Normal	NSW_0356_PFAS		<0.002	*0.012*	<0.002	0.012	0.086	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.074	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW168	15 May 2019	0356_CNN0230_GW02_190515	Normal	NSW_0356_PFAS		<0.01	*0.21*	0.03	**0.24**	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW170	03 Oct 2018	0356_S004_GW01_181003	Normal	NSW_0356_PFAS		<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW185	23 Oct 2020	0356_MW185_201023	Normal	NSW_0356_PFAS		0.01	*0.04*	0.06	**0.1**	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW186	21 May 2020	0356_SW536_200521	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW186	02 Nov 2020	0356_MW186_201102	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW186	02 Nov 2020	0356_QC108_201102	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW186	02 Nov 2020	0356_QC208_201102	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW187D	03 Sep 2020	0356_MW09D_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	20 Jul 2022	0356_MW187D_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187D	19 Jul 2023	0356_MW187D_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_MW187S_220720	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC102_220720	Field_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW187S	20 Jul 2022	0356_QC202_220720	Interlab_D	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW187S	19 Jul 2023	0356_MW187S_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	03 Aug 2020	0356_QC251_200903	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05
MW188D	03 Aug 2020	QC251_200903	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.05	<0.2	<0.01	<0.05
MW188D	03 Sep 2020	0356_MW10D_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	22 Jul 2022	0356_MW188D_220722	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	<0.01	0.02	0.34	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188D	19 Jul 2023	0356_MW188D_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	<0.01	0.03	0.19	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_MW10S_200903	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	03 Sep 2020	0356_QC151_200903	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	22 Jul 2022	0356_MW188S_220722	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW188S	19 Jul 2023	0356_MW188S_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T9 - Historical Surface Water and Wastewater Analytical Results

						PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**											**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**10**			**2**																										
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
OTH006	03 Apr 2019	0356_OTH006_190403	Normal	NSW_0356_PFAS		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_OTH006_201019	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC152_201019	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Oct 2020	0356_QC252_201019	Interlab_D	NSW_0356_PFAS		<0.01	<0.02	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
OTH006	20 Jul 2022	0356_OTH006_220720	Normal	NSW_0356_PFASOMP_22		0.01	*0.12*	0.11	0.23	0.27	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	18 Jan 2023	0356_OTH006_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.16*	0.04	0.20	0.20	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	19 Jul 2023	0356_OTH006_230719	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
OTH006	24 Jan 2024	0356_OTH006_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.12*	0.03	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	08 Oct 2018	0356_SW002_SW_181008	Normal	NSW_0356_PFAS		0.01	*0.33*	0.34	0.67	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	28 Feb 2019	0356_SW002_190228	Normal	NSW_0356_PFAS		0.007	*0.18*	0.21	0.39	0.465	0.013	0.011	0.005	<0.002	<0.01	0.009	0.026	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW002	24 Apr 2019	0356_SW002_190424	Normal	NSW_0356_PFAS		0.02	*0.31*	0.2	0.51	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	16 Apr 2020	0356_SW002_200416	Normal	NSW_0356_PFAS		<0.01	*0.26*	0.24	0.5	0.54	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC104_220721	Field_D	NSW_0356_PFASOMP_22		0.01	*0.34*	0.21	0.55	0.6	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	21 Jul 2022	0356_QC204_220721	Interlab_D	NSW_0356_PFASOMP_22		0.01	*0.42*	0.24	0.66	0.76	0.02	0.02	0.01	<0.02	<0.02	<0.02	0.04	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW002	21 Jul 2022	0356_SW002_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.33*	0.24	0.57	0.65	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jan 2023	0356_SW002_230117	Normal	NSW_0356_PFASOMP_23		0.05	*0.85*	0.81	1.66	2.13	0.05	0.07	0.04	<0.02	<0.1	0.04	0.2	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Jul 2023	0356_SW002_230717	Normal	NSW_0356_PFASOMP_23		0.07	*1*	1.2	**2.2**	2.61	0.03	0.07	0.03	<0.02	<0.1	0.03	0.15	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	23 Jan 2024	0356_SW002_240123	Normal	NSW_0356_PFASOMP_24		0.04	*0.78*	0.45	1.23	1.37	<0.02	<0.02	0.03	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	30 Nov 2018	0356_SW003_181130	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Apr 2019	0356_SW003_190417	Normal	NSW_0356_PFAS		0.02	*0.24*	0.23	0.47	0.61	0.06	<0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	21 Jul 2022	0356_SW003_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jan 2023	0356_SW003_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC102_230717	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	17 Jul 2023	0356_QC202_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW003	17 Jul 2023	0356_SW003_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW003	23 Jan 2024	0356_SW003_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	30 Nov 2018	0356_SW004_181130	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2019	0356_SW004_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	18 Apr 2020	0356_SW004_200418	Normal	NSW_0356_PFAS		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW004	19 Jul 2022	0356_SW004_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jan 2023	0356_SW004_230119	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004	19 Jul 2023	0356_SW004_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	30 Nov 2018	0356_SW005_181130	Normal	NSW_0356_PFAS		<0.01	*0.02*	<0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2019	0356_QC241_SW_190418	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW005	18 Apr 2019	0356_SW005_190418	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	18 Apr 2020	0356_SW005_200418	Normal	NSW_0356_PFAS		<0.002	*0.009*	0.004	0.013	0.013	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
SW005	19 Jul 2022	0356_SW005_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	19 Jul 2023	0356_SW005_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	08 Oct 2018	0356_SMA13_SW_181008	Normal	NSW_0356_PFAS		<0.01	*0.23*	0.12	0.35	-	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	24 Apr 2019	0356_SMA13_SW_190424	Normal	NSW_0356_PFAS		0.01	*0.24*	0.13	0.37	0.38	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	16 Apr 2020	0356_QC101_200416	Field_D	NSW_0356_PFAS		<0.01	*0.27*	0.12	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	16 Apr 2020	0356_SMA13_200416	Normal	NSW_0356_PFAS		<0.01	*0.24*	0.11	0.35	0.35	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	21 Jul 2022	0356_SW026_220721	Normal	NSW_0356_PFASOMP_22		0.02	*0.76*	0.44	1.2	1.38	0.06	0.03	<0.02	<0.02	<0.1	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jan 2023	0356_SW026_230117	Normal	NSW_0356_PFASOMP_23		0.02	*0.63*	0.28	0.91	1.08	0.04	0.03	<0.02	<0.02	<0.1	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	17 Jul 2023	0356_SW026_230717	Normal	NSW_0356_PFASOMP_23		<0.01	*0.33*	0.16	0.49	0.49	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW026	23 Jan 2024	0356_SW026_240123	Normal	NSW_0356_PFASOMP_24		0.02	*0.89*	0.32	1.21	1.28	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC134_SW_181025	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	25 Oct 2018	0356_QC234_SW_181025	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	25 Oct 2018	0356_SWA7_SW_181025	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Apr 2019	0356_SWA7_SW_190417	Normal	NSW_0356_PFAS		<0.01	*0.03*	<0.02	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	21 Jul 2022	0356_SW028_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC101_230117	Field_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	17 Jan 2023	0356_QC201_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	17 Jan 2023	0356_SW028_230117	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC103_230718	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	18 Jul 2023	0356_QC203_230718	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	18 Jul 2023	0356_SW028_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW028	23 Jan 2024	0356_QC100_240123	Field_D	NSW_0356_PFASOMP_24		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T9 - Historical Surface Water and Wastewater Analytical Results

						PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**						
						Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**10**			**2**																										
PFAS NEMP 2020 Freshwater 99%						*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
SW028	23 Jan 2024	0356_QC200_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW028	23 Jan 2024	0356_SW028_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	22 Mar 2019	0356_SW032_190322	Normal	NSW_0356_PFAS		<0.01	*0.07*	0.02	0.09	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	21 Jul 2022	0356_SW032_220721	Normal	NSW_0356_PFASOMP_22		0.03	*0.86*	0.71	1.57	1.81	0.04	0.06	<0.02	<0.02	<0.1	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jan 2023	0356_SW032_230117	Normal	NSW_0356_PFASOMP_23		0.08	*2.13*	1.69	**3.82**	4.85	0.17	0.21	0.07	<0.02	<0.1	0.06	0.4	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	17 Jul 2023	0356_SW032_230717	Normal	NSW_0356_PFASOMP_23		0.04	*2.02*	1.01	**3.03**	3.38	0.05	0.07	0.04	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW032	23 Jan 2024	0356_SW032_240123	Normal	NSW_0356_PFASOMP_24		<0.01	*0.32*	0.07	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	30 Nov 2018	0356_SMA8_SW_181130	Normal	NSW_0356_PFAS		<0.01	*0.16*	0.09	0.25	0.32	0.03	<0.02	<0.02	<0.02	<0.1	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	08 Feb 2019	0356_SMA8_SW_190208	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2019	0356_SMA8_SW_190424	Normal	NSW_0356_PFAS		<0.01	*0.21*	0.1	0.31	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	24 Apr 2020	0356_SMA8_200424	Normal	NSW_0356_PFAS		0.01	*0.43*	0.44	0.87	0.96	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	19 Oct 2020	0356_SMA8_201019	Normal	NSW_0356_PFAS		<0.01	*0.35*	0.36	0.71	0.81	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	21 Jul 2022	0356_SW034_220721	Normal	NSW_0356_PFASOMP_22		0.01	*0.35*	0.24	0.59	0.64	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC103_230117	Field_D	NSW_0356_PFASOMP_23		0.04	*1.33*	0.52	1.85	2.21	0.04	0.05	0.03	<0.02	<0.1	0.03	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jan 2023	0356_QC203_230117	Interlab_D	NSW_0356_PFASOMP_23		0.03	*1.1*	0.73	1.8	2.2	0.07	0.05	0.03	<0.02	<0.02	0.04	0.12	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW034	17 Jan 2023	0356_SW034_230117	Normal	NSW_0356_PFASOMP_23		0.04	*1.35*	0.55	1.9	2.29	0.05	0.05	0.03	<0.02	<0.1	0.04	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW034	17 Jul 2023	0356_SW034_230717	Normal	NSW_0356_PFASOMP_23		0.02	*0.54*	0.39	0.93	1.06	0.03	0.02	<0.02	<0.02	<0.1	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	11 Apr 2019	0356_RESI_SW035_19041	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	19 Jul 2022	0356_SW035_220719	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jan 2023	0356_SW035_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	18 Jul 2023	0356_SW035_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW035	24 Jan 2024	0356_SW035_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	11 Apr 2019	0356_RESI_SW036_19041	Normal	NSW_0356_PFAS		<0.01	*0.2*	0.09	0.29	0.29	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	19 Jul 2022	0356_SW036_220719	Normal	NSW_0356_PFASOMP_22		<0.01	*0.23*	0.15	0.38	0.41	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jan 2023	0356_SW036_230118	Normal	NSW_0356_PFASOMP_23		0.03	*0.94*	0.58	1.52	1.75	0.02	0.04	<0.02	<0.02	<0.1	0.03	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	18 Jul 2023	0356_SW036_230718	Normal	NSW_0356_PFASOMP_23		0.02	*0.58*	0.37	0.95	1.11	0.03	0.02	<0.02	<0.02	<0.1	0.03	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW036	24 Jan 2024	0356_SW036_240124	Normal	NSW_0356_PFASOMP_24		0.03	*0.79*	0.81	1.6	2.02	0.06	0.05	0.02	<0.02	<0.1	0.06	0.16	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS		0.02	*0.07*	<0.01	0.07	0.12	<0.01	<0.01	<0.01	<0.02	<0.02	0.02	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW039	12 Apr 2019	0356_RESI_SW039_19041	Normal	NSW_0356_PFAS		0.02	*0.08*	<0.02	0.08	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	20 Apr 2020	0356-RESI-SW039-200420	Normal	NSW_0356_PFAS		<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	20 Jul 2022	0356_SW039_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jan 2023	0356_SW039_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	0.01	0.04	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	18 Jul 2023	0356_SW039_230718	Normal	NSW_0356_PFASOMP_23		<0.01	*0.02*	<0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW039	24 Jan 2024	0356_SW039_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.03*	<0.01	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	07 May 2019	0356_SW040_190507	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	21 Jul 2022	0356_SW040_220721	Normal	NSW_0356_PFASOMP_22		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	17 Jan 2023	0356_SW040_230117	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	18 Jul 2023	0356_SW040_230718	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW040	23 Jan 2024	0356_SW040_240123	Normal	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS		0.01	*0.02*	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	17 Apr 2019	0356_RESI_SW041_19041	Normal	NSW_0356_PFAS		0.02	*0.02*	<0.02	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	22 Apr 2020	0356_QC204_200422	Interlab_D	NSW_0356_PFAS		<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	0.02	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.01	<0.01	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW064	22 Apr 2020	0356_RESI_SW041_20042	Normal	NSW_0356_PFAS		<0.01	<0.01	<0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	20 Jul 2022	0356_SW064_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	18 Jan 2023	0356_SW064_230118	Normal	NSW_0356_PFASOMP_23		0.02	*0.06*	0.02	0.08	0.33	0.09	<0.02	<0.02	<0.02	<0.1	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	19 Jul 2023	0356_SW064_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW064	24 Jan 2024	0356_SW064_240124	Normal	NSW_0356_PFASOMP_24		<0.01	*0.03*	<0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	17 Apr 2019	0356_RESI_SW042_19041	Normal	NSW_0356_PFAS		0.02	*0.03*	<0.02	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC101_220720	Field_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	20 Jul 2022	0356_QC201_220720	Interlab_D	NSW_0356_PFASOMP_22		<0.01	*0.02*	0.02	0.05	0.05	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	20 Jul 2022	0356_SW065_220720	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	0.01	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	18 Jan 2023	0356_SW065_230118	Normal	NSW_0356_PFASOMP_23		<0.01	*0.03*	<0.01	0.03	0.11	0.05	<0.02	<0.02	<0.02	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC105_230719	Field_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	19 Jul 2023	0356_QC205_230719	Interlab_D	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW065	19 Jul 2023	0356_SW065_230719	Normal	NSW_0356_PFASOMP_23		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW065	24 Jan 2024	0356_SW065_240124	Normal	NSW_0356_PFASOMP_24		<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW114	21 Jul 2022	0356_SW114_220721	Normal	NSW_0356_PFASOMP_22		<0.01	*0.01*	<0.01	0.01	0.03	<0.02	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T9 - Historical Surface Water and Wastewater Analytical Results

				PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic Acids**				**PFAS - Perfluoroalkyl Sulfonamides**							
				Perfluorooctanoic acid (PFOA)	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorohexane sulfonic acid (PFHxS)**	**Sum of PFHxS and PFOS**	**Sum of PFAS**	**Perfluorobutane sulfonic acid (PFBS)**	**Perfluoropentane sulfonic acid (PFPeS)**	**Perfluoroheptane sulfonic acid (PFHpS)**	**Perfluorodecane sulfonic acid (PFDS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorodecanoic acid (PFDA)**	**Perfluoroundecanoic acid (PFUnDA)**	**Perfluorododecanoic acid (PFDoDA)**	**Perfluorotridecanoic acid (PFTrDA)**	**Perfluorotetradecanoic acid (PFTeDA)**	**4:2 Fluorotelomer sulfonic acid (4:2 FTS)**	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	**Perfluorooctane sulfonamide (FOSA)**	**N-Methyl perfluorooctane sulfonamide (MeFOSA)**	**N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)**	**N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)**	**N-Ethyl perfluorooctane sulfonamide (EtFOSA)**	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	**N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)**
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water				**10**			**2**																													
PFAS NEMP 2020 Freshwater 99%				*19*	*0.00023*																															
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW115	21 Jul 2022	0356_SW115_220721	Normal	NSW_0356_PFASOMP_22	0.01	*0.49*	0.33	0.82	0.86	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW116	21 Jul 2022	0356_SW116_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Oct 2020	0356_SW553_201019	Normal	NSW_0356_PFAS	0.01	*0.25*	0.28	0.53	0.65	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	20 Jul 2022	0356_SW553_220720	Normal	NSW_0356_PFASOMP_22	<0.01	*0.08*	0.07	0.15	0.15	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	18 Jan 2023	0356_SW553_230118	Normal	NSW_0356_PFASOMP_23	0.01	*0.3*	0.2	0.5	0.73	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.18	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW553	19 Jul 2023	0356_SW553_230719	Normal	NSW_0356_PFASOMP_23	0.01	*0.22*	0.27	0.49	0.56	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	21 Jul 2022	0356_SW555_220721	Normal	NSW_0356_PFASOMP_22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	17 Jul 2023	0356_SW555_230717	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW555	23 Jan 2024	0356_SW555_240123	Normal	NSW_0356_PFASOMP_24	<0.01	*0.02*	0.01	0.03	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	19 Jul 2023	0356_SW563_230719	Normal	NSW_0356_PFASOMP_23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW563	24 Jan 2024	0356_SW563_240124	Normal	NSW_0356_PFASOMP_24	<0.01	*0.01*	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
Bold	Denotes exceedance of adopted human health screening criteria
Italics	Denotes exceedance of adopted ecological screening criteria

Table T10 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS		<0.0002	0.0024	0.0004	0.0028	-	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS		<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22		0.0002	0.0345	0.0017	0.0362	0.0372	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22		<0.0001	0.037	0.0017	0.039	0.04	<0.0001	<0.0001	0.0002	0.0003	0.0002	0.0002	0.0002	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22		0.0002	0.0428	0.0018	0.0446	0.0448	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.006	0.0018	0.0078	0.0088	<0.0002	<0.0002	<0.0002	0.0007	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0013	0.0003	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD002	23 Jan 2024	0356_SD002_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0038	0.0005	0.0043	0.0045	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS		<0.0002	0.0009	<0.0002	0.0009	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS		<0.0002	0.0013	<0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS		<0.0002	0.0334	0.0035	0.0369	0.0386	0.0002	<0.0002	<0.0002	0.0004	<0.001	0.0003	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0026	<0.0002	0.0026	0.0026	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0032	0.0002	0.0034	0.0034	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.005	<0.002	<0.002	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	NSW_0356_PFASOMP_24		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.0001	0.0011	<0.0001	0.0011	0.0011	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002
SD003	23 Jan 2024	0356_SD003_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD00	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD00	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190	Field_D	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190	Interlab_D	NSW_0356_PFAS		<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190	Interlab_D	NSW_0356_PFAS		<0.0001	0.0004	<0.0001	0.0004	0.0004	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS		<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0018	<0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS		<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0044	0.0007	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0044	0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS		0.0002	0.0019	<0.0001	0.0019	0.002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001
SD039	12 Apr 2019	0356_RESI_SD039_19	Normal	NSW_0356_PFAS		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	20 Apr 2020	0356_RESI_SD039_20	Normal	NSW_0356_PFAS		0.0003	0.0036	<0.0002	0.0036	0.0039	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0038	<0.0002	0.0038	0.0038	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23		<0.0010	0.0029	<0.0010	0.0029	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0036	<0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Table T10 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																									
SD040	23 Jan 2024	0356_SD040_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS		<0.0002	0.0028	<0.0002	0.0028	0.0028	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	17 Apr 2019	0356_RESI_SD041_19	Normal	NSW_0356_PFAS		<0.0002	0.0034	<0.0002	0.0034	0.0034	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0004	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
SD046	22 Apr 2020	0356_RESI_SD041_20	Normal	NSW_0356_PFAS		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0034	0.0002	0.0036	0.0036	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.007	<0.0002	0.007	0.007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_19	Normal	NSW_0356_PFAS		<0.0002	0.0047	<0.0002	0.0047	0.0049	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22		0.0002	0.0081	0.0002	0.0083	0.0085	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22		0.0002	0.0094	0.0002	0.0096	0.0099	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0075	<0.0002	0.0075	0.0075	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0048	0.0003	0.0051	0.0051	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0014	<0.0002	0.0014	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS		<0.0002	0.0017	0.0003	0.002	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_19	Normal	NSW_0356_PFAS		<0.0002	0.0012	0.0003	0.0015	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0009	<0.0002	0.0009	0.0019	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181	Normal	NSW_0356_PFAS		<0.0002	0.002	<0.0002	0.002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_19	Normal	NSW_0356_PFAS		<0.0002	0.0226	0.0011	0.0237	0.0237	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190	Normal	NSW_0356_PFAS		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS		<0.0002	0.0613	0.0004	0.0617	0.0617	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200	Normal	NSW_0356_PFAS		<0.0002	0.0118	<0.0002	0.0118	0.0118	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0043	0.0002	0.0045	0.0045	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0051	0.0004	0.0055	0.0055	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0017	<0.0002	0.0017	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0016	0.0002	0.0018	0.0018	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181	Field_D	NSW_0356_PFAS		<0.0002	0.0053	0.0004	0.0057	-	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181	Field_D	NSW_0356_PFAS		<0.0002	0.0012	<0.0002	0.0012	-	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181	Interlab_D	NSW_0356_PFAS		<0.0002	0.0027	<0.0002	0.0027	0.0057	<0.0002	<0.0002	<0.0002	0.003	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.01	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
SD055	25 Oct 2018	0356_SMA7_SD_1810	Normal	NSW_0356_PFAS		<0.0002	0.0048	0.0006	0.0054	-	<0.0002	<0.0002	<0.0002	0.0017	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	28 Feb 2019	0356_SMA7__SD_190	Normal	NSW_0356_PFAS		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_1904	Normal	NSW_0356_PFAS		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0026	0.0003	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0034	<0.0002	0.0034	0.0064	<0.0002	<0.0002	<0.0002	0.0028	<0.001	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.002	<0.0001	0.002	0.003	<0.0001	<0.0001	<0.0001	0.001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.002	<0.0002	0.002	0.0038	<0.0002	<0.0002	<0.0002	0.0018	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0008	<0.0002	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0009	<0.0001	0.0009	0.0009	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0009	<0.0002	0.0009	0.0013	<0.0002	<0.0002	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	NSW_0356_PFASOMP_24		<0.0002	0.0049	<0.0002	0.0049	0.0065	<0.0002	<0.0002	<0.0002	0.0013	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	NSW_0356_PFASOMP_24		<0.0001	0.003	<0.0001	0.003	0.0049	<0.0001	<0.0001	<0.0001	0.002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	
SD055	23 Jan 2024	0356_SD055_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.005	<0.0002	0.005	0.0067	<0.0002	<0.0002	<0.0002	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	08 Oct 2018	0356_SMA8_SD_1810	Normal	NSW_0356_PFAS		<0.0002	0.0024	<0.0002	0.0024	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_1902	Normal	NSW_0356_PFAS		<0.0002	0.0066	0.0005	0.0071	0.0071	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_1904	Normal	NSW_0356_PFAS		<0.0002	0.0048	0.0004	0.0052	0.0052	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23		<0.0001	0.0006	0.0001	0.0007	0.0007	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001	<0.0002	<0.0002	
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0006	<0.0002	0.0006	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0005	<0.0002	0.0005	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0064	0.0007	0.0071	0.0073	<0.0002	<0.0002	<0.0002	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_18	Normal	NSW_0356_PFAS		<0.0002	0.0135	0.0024	0.0159	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS		<0.0002	0.0118	0.0014	0.0132	0.0132	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Table T10 - Historical Sediment Analytical Results

						PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids									PFAS - (n:2) Fluorotelomer Sulfonic Acids			
						Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	Sum of PFAS	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0001	0.0001	0.0001	0.0001
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																								
SD080	20 Apr 2020	0356_RESI_SD013_20	Normal	NSW_0356_PFAS		<0.0002	0.0111	0.0013	0.0124	0.0124	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22		<0.0002	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0189	0.0021	0.021	0.0213	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0235	0.0018	0.0253	0.0253	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0045	0.0003	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0029	<0.0002	0.0029	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0023	<0.0002	0.0023	0.0023	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	<0.0002	0.0011	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0092	0.0002	0.0094	0.0094	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22		0.0002	0.0457	0.0023	0.048	0.0496	<0.0002	<0.0002	<0.0002	0.001	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23		0.0003	0.0351	0.0023	0.0374	0.0391	<0.0002	<0.0002	<0.0002	0.0007	<0.001	0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0226	0.0013	0.0239	0.0242	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0114	0.0012	0.0126	0.0129	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0046	0.0002	0.0048	0.0048	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS		<0.0002	0.0088	0.0008	0.0096	0.0096	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0016	<0.0002	0.0016	0.0016	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0112	0.0004	0.0116	0.0116	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0052	0.0002	0.0054	0.0054	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	NSW_0356_PFASOMP_24		0.0002	0.0244	0.0053	0.0297	0.0307	<0.0002	0.0002	0.0002	<0.0002	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22		<0.0002	0.0003	<0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0011	0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0012	<0.0002	0.0012	0.0012	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	NSW_0356_PFASOMP_24		<0.0002	0.0046	<0.0002	0.0046	0.0046	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23		<0.0002	0.0044	<0.0002	0.0044	0.0044	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	NSW_0356_PFASOMP_24		0.0002	0.0168	<0.0002	0.0168	0.017	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD002	08 Oct 2018	0356_SD002_181008	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	28 Feb 2019	0356_SD002_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	24 Apr 2019	0356_SD002_190424	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	16 Apr 2020	0356_SD002_200416	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC105_220721	Field_D	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	21 Jul 2022	0356_QC205_220721	Interlab_D	NSW_0356_PFASOMP_22	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD002	21 Jul 2022	0356_SD002_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	17 Jan 2023	0356_SD002_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	17 Jul 2023	0356_SD002_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD002	23 Jan 2024	0356_SD002_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	05 Oct 2018	0356_SD003_181005	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	28 Feb 2019	0356_SD003_190228	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Apr 2019	0356_SD003_190417	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	21 Jul 2022	0356_SD003_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jan 2023	0356_SD003_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC101_230717	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	17 Jul 2023	0356_QC201_230717	Interlab_D	NSW_0356_PFASOMP_23	<0.002	<0.005	<0.0002	<0.01	<0.001	<0.0004	<0.005
SD003	17 Jul 2023	0356_SD003_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC104_240123	Field_D	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD003	23 Jan 2024	0356_QC204_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD003	23 Jan 2024	0356_SD003_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	12 Oct 2018	0356_SD004_181012	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	17 Jan 2019	0356_NSW1164_SD00	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	05 Mar 2019	0356_SD004_190305	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2019	0356_SD004_190418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	18 Apr 2020	0356_SD004_200418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2022	0356_SD004_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jan 2023	0356_SD004_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	19 Jul 2023	0356_SD004_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD004	24 Jan 2024	0356_SD004_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	12 Oct 2018	0356_SD005_181012	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_NSW1164_SD00	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC100_190	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Jan 2019	0356_SD_QC200_190	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	05 Mar 2019	0356_SD005_190305	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2019	0356_QC241_SD_190	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD005	18 Apr 2019	0356_SD005_190418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	18 Apr 2020	0356_SD005_200418	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2022	0356_SD005_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jan 2023	0356_SD005_230119	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	19 Jul 2023	0356_SD005_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD005	24 Jan 2024	0356_SD005_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	22 Mar 2019	0356_SD032_190322	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	21 Jul 2022	0356_SD032_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jan 2023	0356_SD032_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	17 Jul 2023	0356_SD032_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD032	23 Jan 2024	0356_SD032_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	12 Apr 2019	0356_QC240_190412	Interlab_D	NSW_0356_PFAS	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD039	12 Apr 2019	0356_RESI_SD039_19	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	20 Apr 2020	0356_RESI_SD039_20	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	20 Jul 2022	0356_SD039_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	18 Jan 2023	0356_SD039_230118	Normal	NSW_0356_PFASOMP_23	<0.0010	<0.0025	<0.0010	<0.0025	<0.0025	<0.0010	<0.0025
SD039	18 Jul 2023	0356_SD039_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD039	24 Jan 2024	0356_SD039_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	07 May 2019	0356_SD040_190507	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	21 Jul 2022	0356_SD040_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	17 Jan 2023	0356_SD040_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD040	18 Jul 2023	0356_SD040_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD040	23 Jan 2024	0356_SD040_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	17 Apr 2019	0356_QC141_190417	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	17 Apr 2019	0356_RESI_SD041_19	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	22 Apr 2020	0356_QC203_200422	Interlab_D	NSW_0356_PFAS	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD046	22 Apr 2020	0356_RESI_SD041_20	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	20 Jul 2022	0356_SD046_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	18 Jan 2023	0356_SD046_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	19 Jul 2023	0356_SD046_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD046	24 Jan 2024	0356_SD046_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	17 Apr 2019	0356_RESI_SD042_19	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC100_220720	Field_D	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	20 Jul 2022	0356_QC200_220720	Interlab_D	NSW_0356_PFASOMP_22	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD047	20 Jul 2022	0356_SD047_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	18 Jan 2023	0356_SD047_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	19 Jul 2023	0356_SD047_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD047	24 Jan 2024	0356_SD047_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_QC140_190411	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	11 Apr 2019	0356_RESI_SD035_19	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	19 Jul 2022	0356_SD052_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jan 2023	0356_SD052_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	18 Jul 2023	0356_SD052_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD052	24 Jan 2024	0356_SD052_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	08 Oct 2018	0356_SMA13_SD_181	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	28 Feb 2019	0356_SMA13__SD_19	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	24 Apr 2019	0356_SMA13_SD_190	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_QC102_200416	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	16 Apr 2020	0356_SMA13_SD_200	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	21 Jul 2022	0356_SD053_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jan 2023	0356_SD053_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	17 Jul 2023	0356_SD053_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD053	23 Jan 2024	0356_SD053_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC134_SD_181	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	25 Oct 2018	0356_QC234_SD_181	Interlab_D	NSW_0356_PFAS	<0.002	<0.002	<0.0004	<0.002	<0.002	<0.0004	<0.01
SD055	25 Oct 2018	0356_SMA7_SD_1810	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	28 Feb 2019	0356_SMA7__SD_190	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Apr 2019	0356_SMA7_SD_1904	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	21 Jul 2022	0356_SD055_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC100_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	17 Jan 2023	0356_QC200_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	17 Jan 2023	0356_SD055_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC104_230718	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	18 Jul 2023	0356_QC204_230718	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	18 Jul 2023	0356_SD055_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC101_240123	Field_D	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD055	23 Jan 2024	0356_QC201_240123	Interlab_D	NSW_0356_PFASOMP_24	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD055	23 Jan 2024	0356_SD055_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	08 Oct 2018	0356_SMA8_SD_1810	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	28 Feb 2019	0356_SMA8_SD_1902	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	24 Apr 2019	0356_SMA8_SD_1904	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	21 Jul 2022	0356_SD065_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC102_230117	Field_D	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jan 2023	0356_QC202_230117	Interlab_D	NSW_0356_PFASOMP_23	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.0002	<0.005
SD065	17 Jan 2023	0356_SD065_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	17 Jul 2023	0356_SD065_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD065	23 Jan 2024	0356_SD065_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	16 Nov 2018	0356_RESI_SD013_18	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	20 Apr 2020	0356_QC103_200420	Field_D	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

					PFAS - Perfluoroalkyl Sulfonamides						
					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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR					0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**							
SD080	20 Apr 2020	0356_RESI_SD013_20	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	19 Jul 2022	0356_SD080_220719	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jan 2023	0356_SD080_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	18 Jul 2023	0356_SD080_230718	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD080	24 Jan 2024	0356_SD080_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	21 Jul 2022	0356_SD114_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jan 2023	0356_SD114_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	17 Jul 2023	0356_SD114_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD114	23 Jan 2024	0356_SD114_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	21 Jul 2022	0356_SD115_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jan 2023	0356_SD115_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	17 Jul 2023	0356_SD115_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD115	23 Jan 2024	0356_SD115_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	21 Jul 2022	0356_SD116_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jan 2023	0356_SD116_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	17 Jul 2023	0356_SD116_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD116	23 Jan 2024	0356_SD116_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Oct 2020	0356_SD539_201019	Normal	NSW_0356_PFAS	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	20 Jul 2022	0356_SD539_220720	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	18 Jan 2023	0356_SD539_230118	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	19 Jul 2023	0356_SD539_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD539	24 Jan 2024	0356_SD539_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	21 Jul 2022	0356_SD555_220721	Normal	NSW_0356_PFASOMP_22	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jan 2023	0356_SD555_230117	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	17 Jul 2023	0356_SD555_230717	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD555	23 Jan 2024	0356_SD555_240123	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	19 Jul 2023	0356_SD563_230719	Normal	NSW_0356_PFASOMP_23	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005
SD563	24 Jan 2024	0356_SD563_240124	Normal	NSW_0356_PFASOMP_24	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005

Notes

LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

Appendix C

Calibration Certificates

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Interface Meter
Heron H.Oil

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	[redacted]
Contact Name	[redacted]
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	01-09088
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_8.1

Instrument Check			
Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H_2O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings		
Product	Buzzer	LED Light
H_2O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	[redacted]
Calibration Date	16/01/2024
Calibration Due	16/07/2024

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WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Water Quality Meter
YSI Professional Plus

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	[redacted]
Contact Name	[redacted]
Instrument	YSI Pro Quatro Water Quality Meter w/ 1m Quatro Cable
Serial Number	22H104712
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_8.1
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	23.5	24.2	23.5	°C
pH	pH 4.00	386466	4.01	3.98	4.01	pH
pH	pH 7.00	387329	7.00	7.01	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2807	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	224.0	207.2	224.0	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	0.9	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	106.6	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	[redacted]
Calibration Date	16/01/2024
Calibration Due	16/07/2024

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ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton Military Army Base	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	WAM Scientific
Make and Model:	YSI Professional Plus
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	23/01/24 @ 0910.				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	0.0	
Calibration Reading:	4.03	7.02	2768	0.34	
Calibration Temperature:					

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] — 23/01/24 (Date)

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton Military Army Base	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	WAM Scientific
Make and Model:	YSI Professional Plus
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	~~pS/cm~~	ppm	ppm
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	24/01/24 @ 0720				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	0.0	
Bump Test Reading:	4.04	7.03	2770	0.44	
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] — 24/01/24 (Date)

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Singleton OMP	**Project Number:**	60612562
Project Location:	Singleton Military Army Base	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	WAM Scientific
Make and Model:	YSI Professional Plus
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	25/01/24 @0750				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.00	7.00	2760	0.0	
Bump Test Reading:	4.04	7.02	2784	0.36	
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] — 25/01/24 (Date)

Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	**Validation by:**	[redacted]	**Date:**	23/02/2024
Client:	Department of Defence	**Data verified by:**	[redacted]	**Date:**	27/02/2024
Site:	Singleton Military Area	**Project Manager:**	[redacted]		
Matrix type:	Groundwater, Surface Water, Sediment and Other				
Primary samples:	5 Groundwater samples, 13 Surface Water samples, 20 Sediment samples and 1 Wastewater effluent sample				
Laboratory:	Primary: ALS Secondary: Envirolab				
Lab reference:	ES2402506, ES2402507, ES2402508, ES2402510, ES2402575 (ALS) 342545 (Envirolab)				
Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication to decision-making on the project.				

Field Quality Assurance and Quality Control

Field DQOs and DQIs	The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2023).
Sampling personnel	Sampling was conducted between 23/01/2024 and 24/01/2024. Field personnel were suitably qualified and experienced AECOM Environmental Scientists.
Sampling methodology	All water and sediment samples were collected in accordance with the methodology outlined in the SAQP (AECOM, 2024). After each sample was collected, reusable equipment was decontaminated using Liquinox and potable water and the consumables (nitrile gloves, HydraSleeve™ materials and/or bailers) were disposed of in waste bins.
Chain of Custody (COC)	All samples collected were reported on the Chain of Custody documents (COC) and subsequent email amendments and analysed for requested analytes.
Rinsate blank	Rinsate blank samples were collected at a frequency of 1 per day of sampling where equipment was re-used and decontaminated between sample points. Rinsate blank samples were either collected from the final rinse of the interface probe or sampling trowel following decontamination, using laboratory-supplied de-ionised water.
Frequency of field QC	Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at or above a frequency of 1 in ten primary samples (10%), meeting the DQI. In total: • 3 water field duplicates and 3 water field triplicates were collected (16%) for 19 primary water samples • 3 sediment field duplicates and 3 sediment field triplicates were collected (15%) for 20 primary sediment samples in total.
Handling and preservation	All samples were received by the primary laboratory in appropriate containers, with ice present, at 0.5 ˚C, within the recommended temperature range (<6°C). All samples were received by the secondary laboratory in appropriate containers, with ice present, at 8.0 ˚C, marginally above the recommended temperature range (<6°C). Given that ice was present and PFAS are non-volatile, the slightly elevated temperature is not considered likely to significantly impact analytical results.
Calibration of equipment	Measurements of water geochemical parameters were undertaken using YSI Professional Plus water quality meters, which were calibrated by the supplier prior to use, in accordance with the manufacturer's instructions and bump tested daily by the field personnel. Measurements of depth to groundwater were undertaken using an interface probe, which was serviced by the supplier prior to use. All equipment calibration and service certificates are presented in **Appendix C**.

DATA VALIDATION REPORT

Laboratory QA/QC	
Laboratory DQOs and DQIs	The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2024).
Tests requested/reported	All samples were analysed for per- and polyfluoroalkyl substances (PFAS) extended suite, at the standard level of detection. All sample requests for analysis are reported on the Chain of Custody (COC).
Holding time compliance	All samples were extracted and analysed by the laboratory within the recommended holding times.
Laboratory accreditation	The primary laboratory analysis was conducted by ALS Environmental Pty Ltd (Sydney) a National Association of Testing Authorities (NATA) accredited laboratory (Accreditation No. 825). The secondary samples were analysed at Envirolab Services, also a NATA accredited laboratory (accreditation number 2901).
Frequency of laboratory QC	The primary laboratory (ALS) reported sufficient frequency of quality control samples to assess whether the results have been reported with acceptable accuracy and precision.
Method blank	All method blank concentrations were reported <LOR (limit of reporting) for the analytes tested, meeting the project requirements. This is presented in the Quality Control Reports for both laboratories.
Laboratory duplicate RPDs	The reported laboratory duplicate's Relative Percentage Differences (RPDs) were within laboratory control limits. The laboratory duplicate RPDs are presented in the Quality Control Reports for the primary laboratory.
LCS recovery	Laboratory control spike (LCS) recoveries were within control limits. This is presented in the Quality Control Reports for both laboratories.
Matrix spike recovery	Matrix spike (MS) recoveries were within control limits. This is presented in the Quality Control Reports for both laboratories.
Surrogate spike recovery	The reported surrogate spike recoveries were within laboratory control limits.
QA/QC Data Evaluation	
Comparison of field observations and laboratory results	No anomalies between field observations and analytical results were noted.
Anomalous data / Repeat analysis	Following the reporting of PFAS concentrations which were first time detections and new exceedances at two locations (SW555 and SW563), the primary laboratory was requested to confirm the results by re-analysis. The repeat analysis confirmed the originally reported concentrations.
Data transcription	A check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and the tables generated by AECOM.
Limits of reporting	With the exception of the PFAS NEMP Freshwater 99% species protection (HEPA 2020) values for PFOS, the laboratory LORs were sufficiently low to enable assessment against adopted guideline criteria.

DATA VALIDATION REPORT	
Rinsate blank sample results	The concentrations of PFAS in the rinsate blank samples (**Table D3**) were below the LOR, indicating decontamination procedures were adequate.
RPDs for field duplicates / triplicates	RPDs for field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were reported within acceptable limits (≤30%, or ≤50% for results 10-20 x LOR, or No Limit for results <10 x LOR). While there were no reportable RPD exceedances, there was a notable discrepancy in reported results between primary sample 0356_MW109_240123 (PFOS and PFHxS reported above LOR) and inter-laboratory duplicate 0356_QC202_240123 (PFOS and PFHxS reported below LOR). Although the reason for the discrepancy is not known, it may be associated with the differences in laboratory methods. It is noted the concentrations are less than 10 x LOR, where precision is low. The intra-laboratory duplicate RPDs that are within control limits indicate a discrepancy between the analytical procedures of the primary and secondary laboratory. The highest concentrations have been adopted for quantitative purposes.
Overall Assessment	
	Data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

Attached:

Table D1 – Water RPDs

Table D2 – Sediment RPDs

Table D3 – Rinsate Blank Results

Table D1 - Water Duplicate RPDs

Lab Report Number			ES2402575	ES2402575		ES2402575	342545		ES2402575	ES2402575		ES2402575	342545	
Field ID			0356_SW028_240123	0356_QC100_240123		0356_SW028_240123	0356_QC200_240123		0356_MW109_240123	0356_QC102_240123		0356_MW109_240123	0356_QC202_240123	
Matrix Type			Water	Water		Water	Water		Water	Water		Water	Water	
Date			23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD
	Unit	LOR												
PFAS														
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.02	0.01	67	0.02	<0.01	67	0.05	0.02	86	0.05	<0.01	nc
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	nc	<0.01	<0.01	nc	0.06	0.03	67	0.06	<0.01	nc
Sum of PFHxS and PFOS	µg/L	0.01	0.02	0.01	67	0.02	<0.01	67	0.11	0.05	**75**	0.11	<0.01	nc
Sum of PFAS	µg/L	0.01	0.02	0.01	67	0.02	<0.01	67	0.11	0.05	**75**	0.11	<0.01	nc
PFAS - Perfluoroalkyl Sulfonic Acids														
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	0	<0.02	<0.01	nc
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
PFAS - Perfluoroalkyl Carboxylic Acids														
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<0.1	<0.1	nc	<0.1	<0.02	nc	<0.1	<0.1	nc	<0.1	<0.02	nc
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.02	nc	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc
PFAS - (n:2) Fluorotelomer Sulfonic Acids														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01	<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.05	nc	<0.05	<0.01	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.02	<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02	<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides														
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.1	nc	<0.05	<0.05	nc	<0.05	<0.1	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	nc	<0.05	<0.5	nc

Notes
LOR = Limit of Reporting
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold

Table D2 - Soil Duplicate RPDs

Lab Report Number			ES2402575	ES2402575		ES2402575	342545		ES2402575	ES2402575		ES2402575	342545	
Field ID			0356_SD055_240123	0356_QC101_240123		0356_SD055_240123	0356_QC201_240123		0356_SD003_240123	0356_QC104_240123		0356_SD003_240123	0356_QC204_240123	
Matrix Type			Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
Date			23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD	23 Jan 2024	23 Jan 2024	RPD
	Unit	LOR												
PFAS														
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001	0.005	0.0049	2	0.005	0.003	50	0.0012	0.001	18	0.0012	0.0011	9
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Sum of PFHxS and PFOS	mg/kg	0.0001	0.005	0.0049	2	0.005	0.003	50	0.0012	0.001	18	0.0012	0.0011	9
Sum of PFAS	mg/kg	0.0001	0.0067	0.0065	3	0.0067	0.0049	**31**	0.0012	0.001	18	0.0012	0.0011	9
PFAS - Perfluoroalkyl Sulfonic Acids														
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	0.0014	0.0013	7	0.0014	0.002	35	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
PFAS - Perfluoroalkyl Carboxylic Acids														
Perfluorobutanoic acid (PFBA)	mg/kg	0.0002	<0.001	<0.001	nc	<0.001	<0.0002	nc	<0.001	<0.001	nc	<0.001	<0.0002	nc
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorononanoic acid (PFNA)	mg/kg	0.0001	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc	<0.0002	<0.0002	nc	<0.0002	<0.0001	nc
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0003	0.0003	0	0.0003	<0.0005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc	<0.0002	<0.0002	nc	<0.0002	<0.0005	nc
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	nc	<0.0005	<0.005	nc	<0.0005	<0.0005	nc	<0.0005	<0.005	nc
PFAS - (n:2) Fluorotelomer Sulfonic Acids														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0001	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc	<0.0005	<0.0005	nc	<0.0005	<0.0001	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0002	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc	<0.0005	<0.0005	nc	<0.0005	<0.0002	nc
PFAS - Perfluoroalkyl Sulfonamides														
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.001	nc	<0.0002	<0.0002	nc	<0.0002	<0.001	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	nc	<0.0005	<0.001	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	nc	<0.0005	<0.001	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	nc	<0.0005	<0.001	nc	<0.0005	<0.0005	nc	<0.0005	<0.001	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc	<0.0002	<0.0002	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	nc	<0.0005	<0.005	nc	<0.0005	<0.0005	nc	<0.0005	<0.005	nc

Notes
LOR = Limit of Reporting
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%, or >50% for results 10-20 x LOR) are highlighted in bold

Table D3 - Rinsate Blank Results

	Lab Report Number		ES2402575	ES2402575
	Matrix Type		Water	Water
	Date		23 Jan 2024	24 Jan 2024
	Unit	LOR		
PFAS				
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.01	<0.01
PFAS - Perfluoroalkyl Sulfonic Acids				
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02
PFAS - Perfluoroalkyl Carboxylic Acids				
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05
PFAS - (n:2) Fluorotelomer Sulfonic Acids				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05
PFAS - Perfluoroalkyl Sulfonamides				
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05

Appendix E

Laboratory Certificates

CERTIFICATE OF ANALYSIS

Work Order	: **ES2402575**	Page	: 1 of 17
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024 14:47
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62626	Issue Date	: 19-Feb-2024 14:50
Sampler	: [redacted]		
Site	: Singleton		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 31		
No. of samples analysed	: 29		

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]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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 (16/02/2024): This report has been amended as a result of a request to change sample collection times received from [redacted] on 15/02/2024, for samples 003, 006, and 022. All analysis results are as per the previous report.
- Amendment (19/02/2024): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [redacted] on 15/02/2024, for sample 003. 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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW102_240123	0356_MW109_240123	0356_MW110_240123	0356_QC102_240123	----
				Sampling date / time	23-Jan-2024 12:57	23-Jan-2024 12:39	23-Jan-2024 12:20	23-Jan-2024 12:37	----
Compound	CAS Number	LOR	Unit		ES2402575-001	ES2402575-002	ES2402575-003	ES2402575-026	--------
					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	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<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	**0.03**	----
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	**0.05**	<0.01	**0.02**	----
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	<0.01	<0.01	<0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW102_240123	0356_MW109_240123	0356_MW110_240123	0356_QC102_240123	----
				Sampling date / time	23-Jan-2024 12:57	23-Jan-2024 12:39	23-Jan-2024 12:20	23-Jan-2024 12:37	----
Compound	CAS Number	LOR	Unit		ES2402575-001	ES2402575-002	ES2402575-003	ES2402575-026	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.11**	<0.01	**0.05**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.11**	<0.01	**0.05**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.11**	<0.01	**0.05**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**101**	**98.8**	**99.4**	----
13C8-PFOA	----	0.02	%		**95.1**	**95.6**	**97.5**	**97.5**	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0356_QC300_240123	0356_QC301_240124	----	----	----
				Sampling date / time	23-Jan-2024 14:37	24-Jan-2024 15:14	----	----	----
Compound	CAS Number	LOR	Unit		ES2402575-030	ES2402575-031	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0356_QC300_240123	0356_QC301_240124	----	----	----
				Sampling date / time	23-Jan-2024 14:37	24-Jan-2024 15:14	----	----	----
Compound	CAS Number	LOR	Unit		ES2402575-030	ES2402575-031	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.5**	**96.9**	----	----	----
13C8-PFOA	----	0.02	%		**99.4**	**96.6**	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD002_240123	0356_SD003_240123	0356_SD004_240124	0356_SD005_240124	0356_SD032_240123
				Sampling date / time	23-Jan-2024 11:37	23-Jan-2024 13:47	24-Jan-2024 14:40	24-Jan-2024 15:13	23-Jan-2024 11:11
Compound	CAS Number	LOR	Unit		ES2402575-004	ES2402575-005	ES2402575-006	ES2402575-007	ES2402575-008
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**20.1**	**23.4**	**12.0**	**7.4**	**26.8**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		**0.0005**	<0.0002	<0.0002	<0.0002	**0.0002**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0038**	**0.0012**	**0.0002**	**0.0008**	**0.0044**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		**0.0002**	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD002_240123	0356_SD003_240123	0356_SD004_240124	0356_SD005_240124	0356_SD032_240123
				Sampling date / time	23-Jan-2024 11:37	23-Jan-2024 13:47	24-Jan-2024 14:40	24-Jan-2024 15:13	23-Jan-2024 11:11
Compound	CAS Number	LOR	Unit		ES2402575-004	ES2402575-005	ES2402575-006	ES2402575-007	ES2402575-008
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0045**	**0.0012**	**0.0002**	**0.0008**	**0.0046**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0043**	**0.0012**	**0.0002**	**0.0008**	**0.0046**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0043**	**0.0012**	**0.0002**	**0.0008**	**0.0046**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**94.4**	**102**	**101**	**88.9**	**94.8**
13C8-PFOA	----	0.0002	%		**96.6**	**95.3**	**98.6**	**94.2**	**100**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD040_240123	0356_SD053_240123	0356_SD055_240123	0356_SD065_240123	0356_SD114_240123
				Sampling date / time	23-Jan-2024 14:25	23-Jan-2024 14:05	23-Jan-2024 10:42	23-Jan-2024 11:53	23-Jan-2024 13:15
Compound	CAS Number	LOR	Unit		ES2402575-009	ES2402575-010	ES2402575-011	ES2402575-012	ES2402575-013
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**32.9**	**26.8**	**47.9**	**2.1**	**31.4**
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	**0.0002**	<0.0002	**0.0007**	**0.0002**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0008**	**0.0016**	**0.0050**	**0.0064**	**0.0092**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	**0.0014**	**0.0002**	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	**0.0003**	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD040_240123	0356_SD053_240123	0356_SD055_240123	0356_SD065_240123	0356_SD114_240123
				Sampling date / time	23-Jan-2024 14:25	23-Jan-2024 14:05	23-Jan-2024 10:42	23-Jan-2024 11:53	23-Jan-2024 13:15
Compound	CAS Number	LOR	Unit		ES2402575-009	ES2402575-010	ES2402575-011	ES2402575-012	ES2402575-013
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0008**	**0.0018**	**0.0067**	**0.0073**	**0.0094**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0008**	**0.0018**	**0.0050**	**0.0071**	**0.0094**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0008**	**0.0018**	**0.0050**	**0.0071**	**0.0094**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**100**	**91.2**	**107**	**109**	**100**
13C8-PFOA	----	0.0002	%		**92.6**	**101**	**94.8**	**101**	**102**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0356_SD115_240123	0356_SD116_240123	0356_SD555_240123	0356_QC101_240123	0356_QC104_240123
			Sampling date / time	23-Jan-2024 12:04	23-Jan-2024 13:08	23-Jan-2024 13:22	23-Jan-2024 10:42	23-Jan-2024 13:48
Compound	CAS Number	LOR	Unit	ES2402575-014	ES2402575-015	ES2402575-016	ES2402575-025	ES2402575-028
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**5.4**	**21.0**	**39.3**	**42.9**	**22.6**
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	**0.0012**	**0.0002**	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0114**	**0.0046**	**0.0046**	**0.0049**	**0.0010**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	**0.0013**	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	**0.0003**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	**0.0003**	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD115_240123	0356_SD116_240123	0356_SD555_240123	0356_QC101_240123	0356_QC104_240123
				Sampling date / time	23-Jan-2024 12:04	23-Jan-2024 13:08	23-Jan-2024 13:22	23-Jan-2024 10:42	23-Jan-2024 13:48
Compound	CAS Number	LOR	Unit		ES2402575-014	ES2402575-015	ES2402575-016	ES2402575-025	ES2402575-028
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0129**	**0.0048**	**0.0046**	**0.0065**	**0.0010**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0126**	**0.0048**	**0.0046**	**0.0049**	**0.0010**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0129**	**0.0048**	**0.0046**	**0.0049**	**0.0010**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**95.0**	**92.8**	**102**	**98.2**	**101**
13C8-PFOA	----	0.0002	%		**103**	**102**	**99.8**	**107**	**96.4**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW002_240123	0356_SW003_240123	0356_SW026_240123	0356_SW028_240123	0356_SW032_240123
				Sampling date / time	23-Jan-2024 11:37	23-Jan-2024 13:49	23-Jan-2024 14:05	23-Jan-2024 10:43	23-Jan-2024 11:09
Compound	CAS Number	LOR	Unit		ES2402575-017	ES2402575-018	ES2402575-019	ES2402575-020	ES2402575-021
					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		**0.45**	<0.01	**0.32**	<0.01	**0.07**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.78**	**0.01**	**0.89**	**0.02**	**0.32**
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		**0.07**	<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		**0.04**	<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	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW002_240123	0356_SW003_240123	0356_SW026_240123	0356_SW028_240123	0356_SW032_240123
				Sampling date / time	23-Jan-2024 11:37	23-Jan-2024 13:49	23-Jan-2024 14:05	23-Jan-2024 10:43	23-Jan-2024 11:09
Compound	CAS Number	LOR	Unit		ES2402575-017	ES2402575-018	ES2402575-019	ES2402575-020	ES2402575-021
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.37**	**0.01**	**1.28**	**0.02**	**0.39**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.23**	**0.01**	**1.21**	**0.02**	**0.39**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.34**	**0.01**	**1.28**	**0.02**	**0.39**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.9**	**97.3**	**94.6**	**93.6**	**96.0**
13C8-PFOA	----	0.02	%		**97.5**	**97.2**	**96.4**	**96.4**	**98.7**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW040_240123	0356_SW555_240123	0356_QC100_240123	----	----
				Sampling date / time	23-Jan-2024 14:35	23-Jan-2024 13:22	23-Jan-2024 10:43	----	----
Compound	CAS Number	LOR	Unit		ES2402575-022	ES2402575-023	ES2402575-024	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.01**	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.02**	**0.01**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW040_240123	0356_SW555_240123	0356_QC100_240123	----	----
				Sampling date / time	23-Jan-2024 14:35	23-Jan-2024 13:22	23-Jan-2024 10:43	----	----
Compound	CAS Number	LOR	Unit		ES2402575-022	ES2402575-023	ES2402575-024	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.03**	**0.01**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.03**	**0.01**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.03**	**0.01**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.6**	**95.2**	**98.2**	----	----
13C8-PFOA	----	0.02	%		**97.3**	**95.9**	**99.2**	----	----

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2402575**	Page	: 1 of 11
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62626	Issue Date	: 19-Feb-2024
Sampler	: [redacted]		
Site	: Singleton		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 31		
No. of samples analysed	: 29		

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]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5569598)									
ES2402504-003	Anonymous	EA055: Moisture Content	----	0.1	%	4.4	5.0	12.5	0% - 20%
ES2402575-004	0356_SD002_240123	EA055: Moisture Content	----	0.1	%	20.1	21.6	6.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5569599)									
ES2402575-013	0356_SD114_240123	EA055: Moisture Content	----	0.1	%	31.4	36.1	13.9	0% - 20%
ES2402845-002	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	5.9	6.7	12.8	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0036	0.0040	8.7	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2402575-009	0356_SD040_240123	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0008	0.0014	47.4	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327) - continued									
ES2402507-001	Anonymous	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2402575-009	0356_SD040_240123	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	0356_SD040_240123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327) - continued									
ES2402575-009	0356_SD040_240123	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	0356_SD040_240123	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5571205)									
ES2402575-003	0356_MW110_240123	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
ES2402575-026	0356_QC102_240123	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.04	33.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.04	69.3	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5571205) - continued									
ES2402575-026	0356_QC102_240123	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: 5571205)									
ES2402575-003	0356_MW110_240123	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
ES2402575-026	0356_QC102_240123	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: 5571205)									
ES2402575-003	0356_MW110_240123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571205) - continued									
ES2402575-003	0356_MW110_240123	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2402575-026	0356_QC102_240123	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: 5571205)									
ES2402575-003	0356_MW110_240123	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
ES2402575-026	0356_QC102_240123	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: 5571205)									
ES2402575-003	0356_MW110_240123	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2402575-026	0356_QC102_240123	EP231X: Sum of PFAS	----	0.01	µg/L	0.05	0.08	46.2	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	106	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	123	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	118	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	119	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	127	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	122	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	115	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571205)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	99.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	95.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571205)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	117	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	118	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	120	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	119	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571205)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	119	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	113	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	116	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	57.6	145

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: 5571205) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	105	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571205)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	109	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	114	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	119	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	99.8	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	111	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	109	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	117	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	111	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	110	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	118	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	118	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	112	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	119	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	124	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	115	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	116	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	100	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327) - continued							
ES2402507-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	114	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	114	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	116	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	115	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	105	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	94.1	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	87.7	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571205)							
ES2402575-017	0356_SW002_240123	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	112	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	98.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	88.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	106	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	71.2	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	97.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571205)							
ES2402575-017	0356_SW002_240123	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	114	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	120	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	115	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	119	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	115	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	114	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	118	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	109	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	126	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: 5571205)							
ES2402575-017	0356_SW002_240123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	107	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	119	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	104	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	107	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	123	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	107	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	111	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571205)							
ES2402575-017	0356_SW002_240123	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	105	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	92.1	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2402575**	Page	: 1 of 7
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Site	: Singleton	Issue Date	: 19-Feb-2024
Sampler	: [redacted]	No. of samples received	: 31
Order number	: 60612562_8.1	No. of samples analysed	: 29

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**----**	----	----	**30-Jan-2024**	06-Feb-2024	✓
HDPE Soil Jar (EA055)							
0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**----**	----	----	**30-Jan-2024**	07-Feb-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**01-Feb-2024**	21-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
HDPE Soil Jar (EP231X)							
0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**01-Feb-2024**	21-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
HDPE Soil Jar (EP231X)							
0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) 0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**01-Feb-2024**	21-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
HDPE Soil Jar (EP231X) 0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) 0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**01-Feb-2024**	21-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
HDPE Soil Jar (EP231X) 0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0356_SD002_240123, 0356_SD003_240123, 0356_SD032_240123, 0356_SD040_240123, 0356_SD053_240123, 0356_SD055_240123, 0356_SD065_240123, 0356_SD114_240123, 0356_SD115_240123, 0356_SD116_240123, 0356_SD555_240123, 0356_QC101_240123, 0356_QC104_240123	**23-Jan-2024**	**01-Feb-2024**	21-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
HDPE Soil Jar (EP231X) 0356_SD004_240124, 0356_SD005_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW102_240123, 0356_MW109_240123, 0356_MW110_240123, 0356_SW002_240123, 0356_SW003_240123, 0356_SW026_240123, 0356_SW028_240123, 0356_SW032_240123, 0356_SW040_240123, 0356_SW555_240123, 0356_QC100_240123, 0356_QC102_240123, 0356_QC300_240123	**23-Jan-2024**	**31-Jan-2024**	21-Jul-2024	✓	**02-Feb-2024**	21-Jul-2024	✓
HDPE (no PTFE) (EP231X)							
0356_QC301_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**02-Feb-2024**	22-Jul-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW102_240123, 0356_MW109_240123, 0356_MW110_240123, 0356_SW002_240123, 0356_SW003_240123, 0356_SW026_240123, 0356_SW028_240123, 0356_SW032_240123, 0356_SW040_240123, 0356_SW555_240123, 0356_QC100_240123, 0356_QC102_240123, 0356_QC300_240123	**23-Jan-2024**	**31-Jan-2024**	21-Jul-2024	✓	**02-Feb-2024**	21-Jul-2024	✓
HDPE (no PTFE) (EP231X)							
0356_QC301_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**02-Feb-2024**	22-Jul-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0356_MW102_240123, 0356_MW109_240123, 0356_MW110_240123, 0356_SW002_240123, 0356_SW003_240123, 0356_SW026_240123, 0356_SW028_240123, 0356_SW032_240123, 0356_SW040_240123, 0356_SW555_240123, 0356_QC100_240123, 0356_QC102_240123, 0356_QC300_240123	**23-Jan-2024**	**31-Jan-2024**	21-Jul-2024	✓	**02-Feb-2024**	21-Jul-2024	✓
HDPE (no PTFE) (EP231X)							
0356_QC301_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**02-Feb-2024**	22-Jul-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0356_MW102_240123, 0356_MW109_240123, 0356_MW110_240123, 0356_SW002_240123, 0356_SW003_240123, 0356_SW026_240123, 0356_SW028_240123, 0356_SW032_240123, 0356_SW040_240123, 0356_SW555_240123, 0356_QC100_240123, 0356_QC102_240123, 0356_QC300_240123	**23-Jan-2024**	**31-Jan-2024**	21-Jul-2024	✓	**02-Feb-2024**	21-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**02-Feb-2024**	22-Jul-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0356_MW102_240123, 0356_MW109_240123, 0356_MW110_240123, 0356_SW002_240123, 0356_SW003_240123, 0356_SW026_240123, 0356_SW028_240123, 0356_SW032_240123, 0356_SW040_240123, 0356_SW555_240123, 0356_QC100_240123, 0356_QC102_240123, 0356_QC300_240123	**23-Jan-2024**	**31-Jan-2024**	21-Jul-2024	✓	**02-Feb-2024**	21-Jul-2024	✓
HDPE (no PTFE) (EP231X) 0356_QC301_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**02-Feb-2024**	22-Jul-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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	17	**11.76**	**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
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2402575**		
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0356_PFASOMP_24	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 62626	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Singleton		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Jan-2024 14:47	Issue Date	: 19-Feb-2024
Client Requested Due Date	: 02-Feb-2024	Scheduled Reporting Date	: **02-Feb-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 0.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 31 / 29

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
- This is an updated SRN which indicates updated sample collection date/times for samples on this work order.
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ES2402575-004	23-Jan-2024 11:37	0356_SD002_240123		✓	✓
ES2402575-005	23-Jan-2024 13:47	0356_SD003_240123		✓	✓
ES2402575-006	24-Jan-2024 14:40	0356_SD004_240124		✓	✓
ES2402575-007	24-Jan-2024 15:13	0356_SD005_240124		✓	✓
ES2402575-008	23-Jan-2024 11:11	0356_SD032_240123		✓	✓
ES2402575-009	23-Jan-2024 14:25	0356_SD040_240123		✓	✓
ES2402575-010	23-Jan-2024 14:05	0356_SD053_240123		✓	✓
ES2402575-011	23-Jan-2024 10:42	0356_SD055_240123		✓	✓
ES2402575-012	23-Jan-2024 11:53	0356_SD065_240123		✓	✓
ES2402575-013	23-Jan-2024 13:15	0356_SD114_240123		✓	✓
ES2402575-014	23-Jan-2024 12:04	0356_SD115_240123		✓	✓
ES2402575-015	23-Jan-2024 13:08	0356_SD116_240123		✓	✓
ES2402575-016	23-Jan-2024 13:22	0356_SD555_240123		✓	✓
ES2402575-025	23-Jan-2024 10:42	0356_QC101_240123		✓	✓
ES2402575-028	23-Jan-2024 13:48	0356_QC104_240123		✓	✓
ES2402575-029	24-Jan-2024 14:56	0356_QC105_240124	✓		

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2402575-001	23-Jan-2024 12:57	0356_MW102_240123		✓
ES2402575-002	23-Jan-2024 12:39	0356_MW109_240123		✓
ES2402575-003	23-Jan-2024 12:20	0356_MW110_240123		✓
ES2402575-017	23-Jan-2024 11:37	0356_SW002_240123		✓
ES2402575-018	23-Jan-2024 13:49	0356_SW003_240123		✓
ES2402575-019	23-Jan-2024 14:05	0356_SW026_240123		✓
ES2402575-020	23-Jan-2024 10:43	0356_SW028_240123		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2402575-021	23-Jan-2024 11:09	0356_SW032_240123		✓
ES2402575-022	23-Jan-2024 14:35	0356_SW040_240123		✓
ES2402575-023	23-Jan-2024 13:22	0356_SW555_240123		✓
ES2402575-024	23-Jan-2024 10:43	0356_QC100_240123		✓
ES2402575-026	23-Jan-2024 12:37	0356_QC102_240123		✓
ES2402575-027	23-Jan-2024 13:48	0356_QC103_240123	✓	
ES2402575-030	23-Jan-2024 14:37	0356_QC300_240123		✓
ES2402575-031	24-Jan-2024 15:14	0356_QC301_240124		✓

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

(ALS) COC#: 62626 *ALS Laboratory:* ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_MW102_240123		23/01/2024 12:57 PM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0356_MW109_240123		23/01/2024 12:39 PM	WATER	ALS: 4 Non ALS: 0	No		X		
003	0356_MW110_240123		23/01/2024 12:38 PM	WATER	ALS: 4 Non ALS: 0	No		X		
004	0356_SD002_240123		23/01/2024 11:37 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
005	0356_SD003_240123		23/01/2024 01:47 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
006	0356_SD004_240124		24/01/2024 02:57 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
007	0356_SD005_240124		24/01/2024 03:13 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

Environmental Division Sydney

Work Order Reference

ES2402575

Telephone : +61-2-8784 8555

ES2402575

CHAIN OF CUSTODY

ALS COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0356_SD032_240123		23/01/2024 11:11 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
009	0356_SD040_240123		23/01/2024 02:25 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
010	0356_SD053_240123		23/01/2024 02:05 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
011	0356_SD055_240123		23/01/2024 10:42 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
012	0356_SD065_240123		23/01/2024 11:53 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
013	0356_SD114_240123		23/01/2024 01:15 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
014	0356_SD115_240123		23/01/2024 12:04 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0356_SD116_240123		23/01/2024 01:08 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
016	0356_SD555_240123		23/01/2024 01:22 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
017	0356_SW002_240123		23/01/2024 11:37 AM	WATER	ALS: 4 Non ALS: 0	No		X		
018	0356_SW003_240123		23/01/2024 01:49 PM	WATER	ALS: 4 Non ALS: 0	No		X		
019	0356_SW026_240123		23/01/2024 02:05 PM	WATER	ALS: 4 Non ALS: 0	No		X		
020	0356_SW028_240123		23/01/2024 10:43 AM	WATER	ALS: 4 Non ALS: 0	No		X		
021	0356_SW032_240123		23/01/2024 11:09 AM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0356_SW040_240123		23/01/2024 02:26 PM	WATER	ALS: 4 Non ALS: 0	No		X		
023	0356_SW555_240123		23/01/2024 01:22 PM	WATER	ALS: 4 Non ALS: 0	No		X		
024	0356_QC100_240123		23/01/2024 10:43 AM	WATER	ALS: 4 Non ALS: 0	No		X		
025	0356_QC101_240123		23/01/2024 10:42 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
026	0356_QC102_240123		23/01/2024 12:37 PM	WATER	ALS: 4 Non ALS: 0	No		X		
027	0356_QC103_240123		23/01/2024 01:48 PM	WATER	ALS: 4 Non ALS: 0	Yes				
028	0356_QC104_240123		23/01/2024 01:48 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0356_QC105_240124		24/01/2024 02:56 PM	SOIL	ALS: 1 Non ALS: 0	Yes	-			
030	0356_QC300_240123		23/01/2024 02:37 PM	WATER	ALS: 4 Non ALS: 0	No		X		
031	0356_QC301_240124		24/01/2024 03:14 PM	WATER	ALS: 4 Non ALS: 0	No		X		

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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	0356_MW102_240123	HDPE (no PTFE)	20 mL	00352309041719	Grey	No	
001	0356_MW102_240123	HDPE (no PTFE)	20 mL	00352309041670	Grey	No	
001	0356_MW102_240123	HDPE (no PTFE)	20 mL	00352309041543	Grey	No	
001	0356_MW102_240123	HDPE (no PTFE)	20 mL	00352309041598	Grey	No	
002	0356_MW109_240123	HDPE (no PTFE)	20 mL	00352309050168	Grey	No	
002	0356_MW109_240123	HDPE (no PTFE)	20 mL	00352309050356	Grey	No	
002	0356_MW109_240123	HDPE (no PTFE)	20 mL	00352309050188	Grey	No	
002	0356_MW109_240123	HDPE (no PTFE)	20 mL	00352309050180	Grey	No	
003	0356_MW110_240123	HDPE (no PTFE)	20 mL	00350621001302	Grey	No	
003	0356_MW110_240123	HDPE (no PTFE)	20 mL	00352309050136	Grey	No	
003	0356_MW110_240123	HDPE (no PTFE)	20 mL	00350621001305	Grey	No	
003	0356_MW110_240123	HDPE (no PTFE)	20 mL	00352309050352	Grey	No	
004	0356_SD002_240123	HDPE Soil Jar	200 mL	00621222095293	Grey	No	
005	0356_SD003_240123	HDPE Soil Jar	200 mL	00621222095315	Grey	No	
006	0356_SD004_240124	HDPE Soil Jar	200 mL	00621222095284	Grey	No	
007	0356_SD005_240124	HDPE Soil Jar	200 mL	00621222095301	Grey	No	
008	0356_SD032_240123	HDPE Soil Jar	200 mL	00621222095234	Grey	No	
009	0356_SD040_240123	HDPE Soil Jar	200 mL	00621222095188	Grey	No	
010	0356_SD053_240123	HDPE Soil Jar	200 mL	00621222095194	Grey	No	
011	0356_SD055_240123	HDPE Soil Jar	200 mL	00621222095283	Grey	No	
012	0356_SD065_240123	HDPE Soil Jar	200 mL	00621222095267	Grey	No	
013	0356_SD114_240123	HDPE Soil Jar	200 mL	00621222095300	Grey	No	
014	0356_SD115_240123	HDPE Soil Jar	200 mL	00621222095204	Grey	No	
015	0356_SD116_240123	HDPE Soil Jar	200 mL	00621222095307	Grey	No	
016	0356_SD555_240123	HDPE Soil Jar	200 mL	00621222095260	Grey	No	
017	0356_SW002_240123	HDPE (no PTFE)	20 mL	00352309041579	Grey	No	

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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:

017	0356_SW002_240123	HDPE (no PTFE)	20 mL	00352309041686	Grey	No	
017	0356_SW002_240123	HDPE (no PTFE)	20 mL	00352309050304	Grey	No	
017	0356_SW002_240123	HDPE (no PTFE)	20 mL	00352309050264	Grey	No	
018	0356_SW003_240123	HDPE (no PTFE)	20 mL	00352309069515	Grey	No	
018	0356_SW003_240123	HDPE (no PTFE)	20 mL	00352309069538	Grey	No	
018	0356_SW003_240123	HDPE (no PTFE)	20 mL	00352309041834	Grey	No	
018	0356_SW003_240123	HDPE (no PTFE)	20 mL	00352309041724	Grey	No	
019	0356_SW026_240123	HDPE (no PTFE)	20 mL	00350621001421	Grey	No	
019	0356_SW026_240123	HDPE (no PTFE)	20 mL	00352309069494	Grey	No	
019	0356_SW026_240123	HDPE (no PTFE)	20 mL	00350621001340	Grey	No	
019	0356_SW026_240123	HDPE (no PTFE)	20 mL	00352309069430	Grey	No	
020	0356_SW028_240123	HDPE (no PTFE)	20 mL	00352309050110	Grey	No	
020	0356_SW028_240123	HDPE (no PTFE)	20 mL	00352309041800	Grey	No	
020	0356_SW028_240123	HDPE (no PTFE)	20 mL	00352309050229	Grey	No	
020	0356_SW028_240123	HDPE (no PTFE)	20 mL	00352309041733	Grey	No	
021	0356_SW032_240123	HDPE (no PTFE)	20 mL	00352309050178	Grey	No	
021	0356_SW032_240123	HDPE (no PTFE)	20 mL	00352309050368	Grey	No	
021	0356_SW032_240123	HDPE (no PTFE)	20 mL	00352309050269	Grey	No	
021	0356_SW032_240123	HDPE (no PTFE)	20 mL	00352309050187	Grey	No	
022	0356_SW040_240123	HDPE (no PTFE)	20 mL	00352309050942	Grey	No	
022	0356_SW040_240123	HDPE (no PTFE)	20 mL	00352309051195	Grey	No	
022	0356_SW040_240123	HDPE (no PTFE)	20 mL	00352309050841	Grey	No	
022	0356_SW040_240123	HDPE (no PTFE)	20 mL	00352309050882	Grey	No	
023	0356_SW555_240123	HDPE (no PTFE)	20 mL	00352309041601	Grey	No	
023	0356_SW555_240123	HDPE (no PTFE)	20 mL	00352309041621	Grey	No	
023	0356_SW555_240123	HDPE (no PTFE)	20 mL	00352010028553	Grey	No	
023	0356_SW555_240123	HDPE (no PTFE)	20 mL	00352010028532	Grey	No	

CHAIN OF CUSTODY

COC#: 62626 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Singleton

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: 0447724581

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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:

024	0356_QC100_240123	HDPE (no PTFE)	20 mL	00352309050127	Grey	No	
024	0356_QC100_240123	HDPE (no PTFE)	20 mL	00352309050173	Grey	No	
024	0356_QC100_240123	HDPE (no PTFE)	20 mL	00352309050104	Grey	No	
024	0356_QC100_240123	HDPE (no PTFE)	20 mL	00352309050334	Grey	No	
025	0356_QC101_240123	HDPE Soil Jar	200 mL	00621222095278	Grey	No	
026	0356_QC102_240123	HDPE (no PTFE)	20 mL	00352309050346	Grey	No	
026	0356_QC102_240123	HDPE (no PTFE)	20 mL	00352309050342	Grey	No	
026	0356_QC102_240123	HDPE (no PTFE)	20 mL	00352309050183	Grey	No	
026	0356_QC102_240123	HDPE (no PTFE)	20 mL	00352309050370	Grey	No	
027	0356_QC103_240123	HDPE (no PTFE)	20 mL	00352309050148	Grey	No	
027	0356_QC103_240123	HDPE (no PTFE)	20 mL	00352309050128	Grey	No	
027	0356_QC103_240123	HDPE (no PTFE)	20 mL	00352309050190	Grey	No	
027	0356_QC103_240123	HDPE (no PTFE)	20 mL	00352309050191	Grey	No	
028	0356_QC104_240123	HDPE Soil Jar	200 mL	00621222095286	Grey	No	
029	0356_QC105_240124	HDPE Soil Jar	200 mL	00621222095224	Grey	No	
030	0356_QC300_240123	HDPE (no PTFE)	20 mL	00352309069492	Grey	No	
030	0356_QC300_240123	HDPE (no PTFE)	20 mL	00352309069524	Grey	No	
030	0356_QC300_240123	HDPE (no PTFE)	20 mL	00352309069539	Grey	No	
030	0356_QC300_240123	HDPE (no PTFE)	20 mL	00352309069497	Grey	No	
031	0356_QC301_240124	HDPE (no PTFE)	20 mL	00352309069429	Grey	No	
031	0356_QC301_240124	HDPE (no PTFE)	20 mL	00352309069318	Grey	No	
031	0356_QC301_240124	HDPE (no PTFE)	20 mL	00352309069383	Grey	No	
031	0356_QC301_240124	HDPE (no PTFE)	20 mL	00352309069487	Grey	No	

Total Bottle Count: ALS: 76, Non ALS: 0

ALSCompass
SAMPLING *Intelligence*

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: ~~[redacted]~~ 60612562 / 8:1 **Client:** Aecom **Project Manager:** [redacted]

Phone:

ALS Compass COC Reference: 62626 **# Samples:** [redacted] **Sampler:**

Phone:

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:	ALS Use Only Custody seal intact? YES NO N/A Free ice / frozen ice bricks upon receipt? YES NO N/A Random sample temperature on receipt? 0.5 °C

Custody:

Relinquished by: [redacted]	**Received by:** WS	**Relinquished by:** WS	**Received by:**
Date / Time: 25/01/23 @ 1445	**Date / Time:** 25-1-24 2147	**Date / Time:** 25-1-24	**Date / Time:** 25/1/24 1940

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

CERTIFICATE OF ANALYSIS

Work Order	: **ES2402510**	Page	: 1 of 9
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024 14:47
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62968	Issue Date	: 20-Feb-2024 11:46
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 8		
No. of samples analysed	: 8		

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]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: Positive PFOS result for sample #5 confirmed by re-analysis.
- Amendment (16/02/2024): This report has been amended as a result of a request to change sample collection times received from [redacted] on 15/02/2024, for samples 002, and 004-007. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0356_SD046_240124	0356_SD047_240124	0356_SD539_240124	0356_SD563_240124	----
			Sampling date / time	24-Jan-2024 13:26	24-Jan-2024 14:14	24-Jan-2024 13:04	24-Jan-2024 13:42	----
Compound	CAS Number	LOR	Unit	ES2402510-002	ES2402510-006	ES2402510-007	ES2402510-008	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**20.6**	**27.7**	**11.9**	**13.9**	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	**0.0002**	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	**0.0053**	<0.0002	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	**0.0002**	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0070**	**0.0014**	**0.0244**	**0.0168**	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	**0.0004**	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	**0.0002**	**0.0002**	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD046_240124	0356_SD047_240124	0356_SD539_240124	0356_SD563_240124	----
				Sampling date / time	24-Jan-2024 13:26	24-Jan-2024 14:14	24-Jan-2024 13:04	24-Jan-2024 13:42	----
Compound	CAS Number	LOR	Unit		ES2402510-002	ES2402510-006	ES2402510-007	ES2402510-008	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0070**	**0.0014**	**0.0307**	**0.0170**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0070**	**0.0014**	**0.0297**	**0.0168**	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0070**	**0.0014**	**0.0303**	**0.0170**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**107**	**97.9**	**110**	**103**	----
13C8-PFOA	----	0.0002	%		**99.0**	**95.0**	**98.1**	**101**	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW064_240124	0356_SW065_240124	0356_SW563_240124	----	----
				Sampling date / time	24-Jan-2024 13:17	24-Jan-2024 14:12	24-Jan-2024 13:54	----	----
Compound	CAS Number	LOR	Unit		ES2402510-003	ES2402510-004	ES2402510-005	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.03**	<0.01	**0.01**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW064_240124	0356_SW065_240124	0356_SW563_240124	----	----
				Sampling date / time	24-Jan-2024 13:17	24-Jan-2024 14:12	24-Jan-2024 13:54	----	----
Compound	CAS Number	LOR	Unit		ES2402510-003	ES2402510-004	ES2402510-005	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.03**	<0.01	**0.01**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	<0.01	**0.01**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.03**	<0.01	**0.01**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.3**	**93.0**	**88.4**	----	----
13C8-PFOA	----	0.02	%		**104**	**104**	**102**	----	----

Analytical Results

Sub-Matrix: WASTEWATER (Matrix: WATER)			Sample ID	0356_OTH006_240124	----	----	----	----
			Sampling date / time	24-Jan-2024 12:30	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2402510-001	--------	--------	--------	--------
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.03**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.12**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WASTEWATER (Matrix: WATER)				Sample ID	0356_OTH006_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 12:30	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402510-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.15**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.15**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.15**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.4**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.5**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: WASTEWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2402510**	Page	: 1 of 11
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62968	Issue Date	: 20-Feb-2024
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 8		
No. of samples analysed	: 8		

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]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5569598)									
ES2402504-003	Anonymous	EA055: Moisture Content	----	0.1	%	4.4	5.0	12.5	0% - 20%
ES2402575-004	Anonymous	EA055: Moisture Content	----	0.1	%	20.1	21.6	6.8	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0036	0.0040	8.7	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0008	0.0014	47.4	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327) - continued									
ES2402507-001	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327) - continued									
ES2402575-009	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory 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: 5569373)									
ES2402504-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2402506-001	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	0.08	0.08	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: 5569373)									
ES2402504-001	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

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: 5569373) - continued									
ES2402504-001	Anonymous	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
ES2402506-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5569373)									
ES2402504-001	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
ES2402506-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5569373) - continued									
ES2402506-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5569373)									
ES2402504-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2402506-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5569373)									
ES2402504-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
ES2402506-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	106	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	123	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	118	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	119	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	127	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	122	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	115	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5569373)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	118	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	113	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	103	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	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	117	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5569373)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	125	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.6	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	108	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	57.6	145

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: 5569373) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	111	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	105	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	99.8	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	111	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	109	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	117	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	111	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	110	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	118	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	118	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	112	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	119	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	124	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	115	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	116	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	100	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327) - continued							
ES2402507-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	114	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	114	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	116	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	115	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	105	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	94.1	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	87.7	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	96.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	111	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	106	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	119	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	105	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	110	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	107	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	123	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	127	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	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: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	104	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	101	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	123	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	123	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	117	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	127	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	103	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2402510**	Page	: 1 of 5
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Site	: Offsite	Issue Date	: 20-Feb-2024
Sampler	: [redacted]	No. of samples received	: 8
Order number	: 60612562_8.1	No. of samples analysed	: 8

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**----**	----	----	**30-Jan-2024**	07-Feb-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X)							
0356_SD046_240124, 0356_SD047_240124, 0356_SD539_240124, 0356_SD563_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_OTH006_240124, 0356_SW064_240124, 0356_SW065_240124, 0356_SW563_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0356_OTH006_240124, 0356_SW064_240124, 0356_SW065_240124, 0356_SW563_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0356_OTH006_240124, 0356_SW064_240124, 0356_SW065_240124, 0356_SW563_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_OTH006_240124, 0356_SW064_240124, 0356_SW065_240124, 0356_SW563_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0356_OTH006_240124, 0356_SW064_240124, 0356_SW065_240124, 0356_SW563_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2402510**		
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0356_PFASOMP_24	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 62968	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Offsite		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Jan-2024 14:47	Issue Date	: 20-Feb-2024
Client Requested Due Date	: 02-Feb-2024	Scheduled Reporting Date	: **02-Feb-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 0.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 8 / 8

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
- This is an updated SRN which indicates updated sample collection times for this work order.
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ES2402510-002	24-Jan-2024 13:26	0356_SD046_240124	✓	✓
ES2402510-006	24-Jan-2024 14:14	0356_SD047_240124	✓	✓
ES2402510-007	24-Jan-2024 13:04	0356_SD539_240124	✓	✓
ES2402510-008	24-Jan-2024 13:42	0356_SD563_240124	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2402510-001	24-Jan-2024 12:30	0356_OTH006_240124	✓
ES2402510-003	24-Jan-2024 13:17	0356_SW064_240124	✓
ES2402510-004	24-Jan-2024 14:12	0356_SW065_240124	✓
ES2402510-005	24-Jan-2024 13:54	0356_SW563_240124	✓

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]
- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

ALS COC#: 62968 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_OTH006_240124		24/01/2024 12:30 PM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0356_SD046_240124		24/01/2024 01:16 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
003	0356_SW064_240124		24/01/2024 01:17 PM	WATER	ALS: 4 Non ALS: 0	No		X		
004	0356_SW065_240124		24/01/2024 02:01 PM	WATER	ALS: 4 Non ALS: 0	No		X		
005	0356_SW563_240124		24/01/2024 01:43 PM	WATER	ALS: 4 Non ALS: 0	No		X		
006	0356_SD047_240124		24/01/2024 02:00 PM	SOIL	ALS: 1 Non ALS: 0	No	X			
007	0356_SD539_240124		24/01/2024 12:56 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

Environmental Division
Sydney
Work Order Reference
ES2402510

Telephone : +61-2-8784 8555

ES2402510

CHAIN OF CUSTODY

COC#: 62968 *ALS Laboratory:* ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0356_SD563_240124		24/01/2024 01:42 PM	SOIL	ALS: 1 Non ALS: 0	No	X			

CHAIN OF CUSTODY

COC#: 62968 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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	0356_OTH006_240124	HDPE (no PTFE)	20 mL	00352309069408	Grey	No	
001	0356_OTH006_240124	HDPE (no PTFE)	20 mL	00352309069553	Grey	No	
001	0356_OTH006_240124	HDPE (no PTFE)	20 mL	00352309069563	Grey	No	
001	0356_OTH006_240124	HDPE (no PTFE)	20 mL	00352309069373	Grey	No	
002	0356_SD046_240124	HDPE Soil Jar	200 mL	00621222095257	Grey	No	
003	0356_SW064_240124	HDPE (no PTFE)	20 mL	00352309069488	Grey	No	
003	0356_SW064_240124	HDPE (no PTFE)	20 mL	00352309069478	Grey	No	
003	0356_SW064_240124	HDPE (no PTFE)	20 mL	00352309069505	Grey	No	
003	0356_SW064_240124	HDPE (no PTFE)	20 mL	00352309069343	Grey	No	
004	0356_SW065_240124	HDPE (no PTFE)	20 mL	00352309069508	Grey	No	
004	0356_SW065_240124	HDPE (no PTFE)	20 mL	00352309069471	Grey	No	
004	0356_SW065_240124	HDPE (no PTFE)	20 mL	00352309069352	Grey	No	
004	0356_SW065_240124	HDPE (no PTFE)	20 mL	00352309069552	Grey	No	
005	0356_SW563_240124	HDPE (no PTFE)	20 mL	00352309069421	Grey	No	
005	0356_SW563_240124	HDPE (no PTFE)	20 mL	00352309069555	Grey	No	
005	0356_SW563_240124	HDPE (no PTFE)	20 mL	00352309069565	Grey	No	
005	0356_SW563_240124	HDPE (no PTFE)	20 mL	00352309069551	Grey	No	
006	0356_SD047_240124	HDPE Soil Jar	200 mL	00621222095277	Grey	No	
007	0356_SD539_240124	HDPE Soil Jar	200 mL	00621222095275	Grey	No	
008	0356_SD563_240124	HDPE Soil Jar	200 mL	00621222095289	Grey	No	

Total Bottle Count: ALS: 20, Non ALS: 0

ALSCompass SAMPLING Intelligence

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: ~~[illegible]~~ 60612562 / 8:1 **Client:** Aecom **Project Manager:** [redacted]

Phone:

ALS Compass COC Reference: 62968 **# Samples:** [redacted] **Sampler:**

Phone:

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	(N/A)
	Free ice / frozen ice bricks upon receipt?	(YES)	NO	N/A
	Random sample temperature on receipt?	0.5 °C		

Custody:

Relinquished by:	**Received by:**	**Relinquished by:**	**Received by:**
[redacted]	WS 25/1/24	WS 25-1-24	[illegible] 25/1/24 1940
Date / Time: 25/01/23 @ 1445	**Date / Time:** 2:47	**Date / Time:** 8L	**Date / Time:**

LAB OF ORIGIN:
NEWCASTLE

CERTIFICATE OF ANALYSIS

Work Order	: **ES2402508**	Page	: 1 of 9
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024 14:47
Order number	: 60612562_8.1	Date Analysis Commenced	: 31-Jan-2024
C-O-C number	: 62967	Issue Date	: 20-Feb-2024 11:44
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This 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]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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 (16/02/2024): This report has been amended as a result of a request to change sample collection times received from [redacted] on 15/02/2024, for all samples. 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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 11:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402508-001	--------	--------	--------	--------
					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		**0.02**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW126_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 11:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402508-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	----	----	----	----
13C8-PFOA	----	0.02	%		**104**	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0356_SD052_240124	0356_SD080_240124	----	----	----
			Sampling date / time	24-Jan-2024 10:24	24-Jan-2024 11:10	----	----	----
Compound	CAS Number	LOR	Unit	ES2402508-004	ES2402508-005	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**39.4**	**19.5**	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	**0.0003**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0004**	**0.0045**	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD052_240124	0356_SD080_240124	----	----	----
				Sampling date / time	24-Jan-2024 10:24	24-Jan-2024 11:10	----	----	----
Compound	CAS Number	LOR	Unit		ES2402508-004	ES2402508-005	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0004**	**0.0048**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0004**	**0.0048**	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0004**	**0.0048**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**116**	**84.4**	----	----	----
13C8-PFOA	----	0.0002	%		**111**	**101**	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW035_240124	0356_SW036_240124	----	----	----
				Sampling date / time	24-Jan-2024 10:20	24-Jan-2024 11:06	----	----	----
Compound	CAS Number	LOR	Unit		ES2402508-002	ES2402508-003	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.06**	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.05**	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**0.81**	----	----	----
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		**0.02**	**0.79**	----	----	----
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	**0.06**	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.16**	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.04**	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.03**	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW035_240124	0356_SW036_240124	----	----	----
				Sampling date / time	24-Jan-2024 10:20	24-Jan-2024 11:06	----	----	----
Compound	CAS Number	LOR	Unit		ES2402508-002	ES2402508-003	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.04**	**2.02**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.04**	**1.60**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.04**	**1.95**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**97.8**	----	----	----
13C8-PFOA	----	0.02	%		**114**	**103**	----	----	----

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2402508**	Page	: 1 of 9
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Order number	: 60612562_8.1	Date Analysis Commenced	: 31-Jan-2024
C-O-C number	: 62967	Issue Date	: 20-Feb-2024
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5572646)									
ES2402519-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	22.9	19.3	17.1	0% - 20%
ES2402698-014	Anonymous	EA055: Moisture Content	----	0.1	%	13.8	15.2	9.8	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5573584)									
ES2402508-004	0356_SD052_240124	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5573584)									
ES2402508-004	0356_SD052_240124	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5573584) - continued									
ES2402508-004	0356_SD052_240124	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5573584)									
ES2402508-004	0356_SD052_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5573584)									
ES2402508-004	0356_SD052_240124	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5573161)									
ES2402508-001	0356_MW126_240124	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
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5573161)									
ES2402508-001	0356_MW126_240124	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: 5573161) - continued									
ES2402508-001	0356_MW126_240124	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: 5573161)									
ES2402508-001	0356_MW126_240124	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: 5573161)									
ES2402508-001	0356_MW126_240124	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: 5573161)									
ES2402508-001	0356_MW126_240124	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5573584)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.9	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.7	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5573584)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	111	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	123	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.2	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	115	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5573584)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	109	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	107	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	119	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	115	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5573584)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5573584) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	95.4	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	114	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	97.1	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5573161)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	125	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	124	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	126	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	121	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	114	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5573161)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	119	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	119	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	123	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	120	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	127	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	120	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5573161)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	124	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	123	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	123	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	128	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	121	57.6	145

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: 5573161) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	119	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5573161)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	99.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	120	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	117	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	131	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5573584)							
ES2402508-004	0356_SD052_240124	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	94.7	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	109	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	94.8	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	122	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	111	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	120	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5573584)							
ES2402508-004	0356_SD052_240124	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	106	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	117	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	116	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	121	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	123	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	116	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	114	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	116	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	116	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	108	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	115	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5573584)							
ES2402508-004	0356_SD052_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	108	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5573584) - continued							
ES2402508-004	0356_SD052_240124	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	117	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	108	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	122	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	121	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	114	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	102	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5573584)							
ES2402508-004	0356_SD052_240124	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	101	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	90.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	97.8	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5573161)							
ES2402508-002	0356_SW035_240124	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	125	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	113	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	125	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	116	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	91.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5573161)							
ES2402508-002	0356_SW035_240124	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	127	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	119	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	121	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	126	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	118	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	112	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	117	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	116	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	119	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	127	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: 5573161)							
ES2402508-002	0356_SW035_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	121	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	122	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	119	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	118	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	134	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	106	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	122	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5573161)							
ES2402508-002	0356_SW035_240124	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	98.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	124	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	104	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	105	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2402508**	Page	: 1 of 5
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Site	: Offsite	Issue Date	: 20-Feb-2024
Sampler	: [redacted]	No. of samples received	: 5
Order number	: 60612562_8.1	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**----**	----	----	**31-Jan-2024**	07-Feb-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X)							
0356_SD052_240124, 0356_SD080_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW126_240124, 0356_SW035_240124, 0356_SW036_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW126_240124, 0356_SW035_240124, 0356_SW036_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0356_MW126_240124, 0356_SW035_240124, 0356_SW036_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0356_MW126_240124, 0356_SW035_240124, 0356_SW036_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0356_MW126_240124, 0356_SW035_240124, 0356_SW036_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	2	**50.00**	**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	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		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	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2402508**		
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0356_PFASOMP_24	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 62967	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Offsite		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Jan-2024 14:47	Issue Date	: 20-Feb-2024
Client Requested Due Date	: 02-Feb-2024	Scheduled Reporting Date	: **02-Feb-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 0.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 5 / 5

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- This is an updated SRN which indicates updated sample collection times for this work order.
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ES2402508-004	24-Jan-2024 10:24	0356_SD052_240124	✓	✓
ES2402508-005	24-Jan-2024 11:10	0356_SD080_240124	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2402508-001	24-Jan-2024 11:00	0356_MW126_240124	✓
ES2402508-002	24-Jan-2024 10:20	0356_SW035_240124	✓
ES2402508-003	24-Jan-2024 11:06	0356_SW036_240124	✓

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

ALS COC#: 62967 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_MW126_240124		24/01/2024 10:32 AM	WATER	ALS: 4 Non ALS: 0	No		X		
002	0356_SW035_240124		24/01/2024 10:08 AM	WATER	ALS: 4 Non ALS: 0	No		X		
003	0356_SW036_240124		24/01/2024 10:30 AM	WATER	ALS: 4 Non ALS: 0	No		X		
004	0356_SD052_240124		24/01/2024 10:07 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
005	0356_SD060_240124		24/01/2024 10:32 AM	SOIL	ALS: 1 Non ALS: 0	No	X			

Environmental Division Sydney

Work Order Reference

ES2402508

Telephone : +61-2-8784 8555

ES2402508

CHAIN OF CUSTODY

COC#: 62967 *ALS Laboratory:* ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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	0356_MW126_240124	HDPE (no PTFE)	20 mL	00352309069550	Grey	No	
001	0356_MW126_240124	HDPE (no PTFE)	20 mL	00352309069531	Grey	No	
001	0356_MW126_240124	HDPE (no PTFE)	20 mL	00352309069367	Grey	No	
001	0356_MW126_240124	HDPE (no PTFE)	20 mL	00352309069510	Grey	No	
002	0356_SW035_240124	HDPE (no PTFE)	20 mL	00352309069537	Grey	No	
002	0356_SW035_240124	HDPE (no PTFE)	20 mL	00352309069467	Grey	No	
002	0356_SW035_240124	HDPE (no PTFE)	20 mL	00352309069362	Grey	No	
002	0356_SW035_240124	HDPE (no PTFE)	20 mL	00352309069381	Grey	No	
003	0356_SW036_240124	HDPE (no PTFE)	20 mL	00352309069446	Grey	No	
003	0356_SW036_240124	HDPE (no PTFE)	20 mL	00352309069469	Grey	No	
003	0356_SW036_240124	HDPE (no PTFE)	20 mL	00352309069329	Grey	No	
003	0356_SW036_240124	HDPE (no PTFE)	20 mL	00352309069479	Grey	No	
004	0356_SD052_240124	HDPE Soil Jar	200 mL	00621222095290	Grey	No	
005	0356_SD080_240124	HDPE Soil Jar	200 mL	00621222095262	Grey	No	

Total Bottle Count: ALS: 14, Non ALS: 0

ALSCompass
SAMPLING *Intelligence*

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: ~~KUDAM~~ 60612562 / 8-1 **Client:** Aecom **Project Manager:** [redacted]

Phone: ([redacted])

ALS Compass COC Reference: 62967 **# Samples:** [redacted] **Sampler:**

Phone: ([redacted])

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:	ALS Use Only Custody seal intact? YES NO (N/A) Free ice / frozen ice bricks upon receipt? (YES) NO N/A Random sample temperature on receipt? 0.5 °C

Custody:

Relinquished by:	**Received by:**	**Relinquished by:**	**Received by:**
[redacted]	WS 25-1-24	WS 25-1-24	[illegible] AS
Date / Time: 25/01/23 @ 1445	**Date / Time:** 2:47	**Date / Time:** [illegible]	**Date / Time:** 25/1/24 0940

LAB OF ORIGIN:
NEWCASTLE

E-MAILED

CERTIFICATE OF ANALYSIS

Work Order	: **ES2402507**	Page	: 1 of 7
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024 14:47
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62966	Issue Date	: 20-Feb-2024 11:42
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
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]	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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 (16/02/2024): This report has been amended as a result of a request to change sample collection times received from [redacted] on 15/02/2024, for all samples. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0356_SD039_240124	----	----	----	----
			Sampling date / time	24-Jan-2024 08:52	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2402507-001	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**38.4**	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0036**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0356_SD039_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 08:52	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402507-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0036**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0036**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0036**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**91.6**	----	----	----	----
13C8-PFOA	----	0.0002	%		**97.1**	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW039_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 08:54	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402507-002	--------	--------	--------	--------
					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		**0.03**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.02**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0356_SW039_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 08:54	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402507-002	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.05**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.03**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.05**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.3**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.9**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SEDIMENT**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: **SURFACE WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2402507**	Page	: 1 of 11
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62966	Issue Date	: 20-Feb-2024
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5569598)									
ES2402504-003	Anonymous	EA055: Moisture Content	----	0.1	%	4.4	5.0	12.5	0% - 20%
ES2402575-004	Anonymous	EA055: Moisture Content	----	0.1	%	20.1	21.6	6.8	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	0356_SD039_240124	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0036	0.0040	8.7	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0008	0.0014	47.4	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327)									
ES2402507-001	0356_SD039_240124	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5571327) - continued									
ES2402507-001	0356_SD039_240124	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327)									
ES2402507-001	0356_SD039_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5571327) - continued									
ES2402575-009	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5571327)									
ES2402507-001	0356_SD039_240124	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2402575-009	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5569373)									
ES2402504-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2402506-001	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	0.08	0.08	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: 5569373)									
ES2402504-001	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

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: 5569373) - continued									
ES2402504-001	Anonymous	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
ES2402506-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5569373)									
ES2402504-001	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
ES2402506-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5569373) - continued									
ES2402506-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5569373)									
ES2402504-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2402506-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5569373)									
ES2402504-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
ES2402506-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	106	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	121	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	123	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	118	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	119	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	127	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	122	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	115	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	69.2	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
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5569373)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	118	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	113	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	103	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	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	117	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5569373)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	125	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.6	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	108	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	57.6	145

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: 5569373) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	111	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	105	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	0356_SD039_240124	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	99.8	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	111	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	109	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	117	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	111	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	121	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5571327)							
ES2402507-001	0356_SD039_240124	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	110	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	118	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	118	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	112	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	119	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	124	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	115	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	116	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	100	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	125	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327)							
ES2402507-001	0356_SD039_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	67.0	137

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5571327) - continued							
ES2402507-001	0356_SD039_240124	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	114	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	114	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	116	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	115	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	105	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5571327)							
ES2402507-001	0356_SD039_240124	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	94.1	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	87.7	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	96.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	111	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	106	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	119	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	105	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	110	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	107	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	123	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	127	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	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: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	104	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	101	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	123	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	123	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	117	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	127	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	103	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2402507**	Page	: 1 of 5
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Site	: Offsite	Issue Date	: 20-Feb-2024
Sampler	: [redacted]	No. of samples received	: 2
Order number	: 60612562_8.1	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

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055)							
0356_SD039_240124	**24-Jan-2024**	**----**	----	----	**30-Jan-2024**	07-Feb-2024	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD039_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
0356_SD039_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X)							
0356_SD039_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X)							
0356_SD039_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X)							
0356_SD039_240124	**24-Jan-2024**	**01-Feb-2024**	22-Jul-2024	✓	**02-Feb-2024**	12-Mar-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_SW039_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0356_SW039_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0356_SW039_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_SW039_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0356_SW039_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2402507**		
Amendment	: **2**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0356_PFASOMP_24	Page	: 1 of 3
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 62966	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Offsite		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Jan-2024 14:47	Issue Date	: 20-Feb-2024
Client Requested Due Date	: 02-Feb-2024	Scheduled Reporting Date	: **02-Feb-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 0.5'C - Ice present
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
- This is an updated SRN which indicates updated sample collection times for this work order.
- **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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ES2402507-001	24-Jan-2024 08:52	0356_SD039_240124	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2402507-002	24-Jan-2024 08:54	0356_SW039_240124	✓

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]

[redacted]

- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

COC#: 62966 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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 Soil - New Analysis SOIL	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_SD039_240124		24/01/2024 08:37 AM	SOIL	ALS: 1 Non ALS: 0	No	X			
002	0356_SW039_240124		24/01/2024 08:38 AM	WATER	ALS: 4 Non ALS: 0	No		X		

Environmental Division Sydney

Work Order Reference

ES2402507

Telephone : +61-2-8784 8555

ES2402507

CHAIN OF CUSTODY

ALS COC#: 62966 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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	0356_SD039_240124	HDPE Soil Jar	200 mL	00621222095302	Grey	No	
002	0356_SW039_240124	HDPE (no PTFE)	20 mL	00352309069493	Grey	No	
002	0356_SW039_240124	HDPE (no PTFE)	20 mL	00352309069481	Grey	No	
002	0356_SW039_240124	HDPE (no PTFE)	20 mL	00352309069377	Grey	No	
002	0356_SW039_240124	HDPE (no PTFE)	20 mL	00352309069337	Grey	No	

Total Bottle Count: ALS: 5, Non ALS: 0

ALSCompass SAMPLING *Intelligence*

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: ~~[redacted]~~ 60612562 / 8:1 **Client:** Aecom **Project Manager:** [redacted]

Phone: ([redacted])

ALS Compass COC Reference: 62966 **# Samples:** [redacted] **Sampler:** [redacted]

Phone: ([redacted])

Turnaround Requirements: Standard ✓ Urgent _____

Special Instructions:	ALS Use Only Custody seal intact? YES NO ~~N/A~~ ~~Free ice~~ / frozen ice bricks upon receipt? ~~YES~~ NO N/A Random sample temperature on receipt? 0.5 °C

Custody:

Relinquished by: [redacted]	**Received by:** KS	**Relinquished by:** MJ	**Received by:**
Date / Time: 25/01/23 @ 1445	**Date / Time:** 25-1-24 2:47	**Date / Time:** 25.1.24 SL	**Date / Time:** 25/1/24 1940

LAB OF ORIGIN: NEWCASTLE

EMAILED

CERTIFICATE OF ANALYSIS

Work Order	: **ES2402506**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024 14:47
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62965	Issue Date	: 01-Feb-2024 13:33
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 07:55	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2402506-001	--------	--------	--------	--------	
				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	**0.02**	----	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.08**	----	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----	

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0356_MW056_240124	----	----	----	----
				Sampling date / time	24-Jan-2024 07:55	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2402506-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.10**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.10**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.10**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**98.8**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2402506**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Order number	: 60612562_8.1	Date Analysis Commenced	: 30-Jan-2024
C-O-C number	: 62965	Issue Date	: 01-Feb-2024
Sampler	: [redacted]		
Site	: Offsite		
Quote number	: SY/139/19 v4 60612562_8.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
[redacted]	LCMS Coordinator	Sydney Organics, Smithfield, NSW

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: 5569373)									
ES2402504-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2402506-001	0356_MW056_240124	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	0.08	0.08	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: 5569373)									
ES2402504-001	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

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: 5569373) - continued									
ES2402504-001	Anonymous	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
ES2402506-001	0356_MW056_240124	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: 5569373)									
ES2402504-001	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
ES2402506-001	0356_MW056_240124	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5569373)									
ES2402504-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2402506-001	0356_MW056_240124	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: 5569373)									
ES2402504-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
ES2402506-001	0356_MW056_240124	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5569373)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	118	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	113	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	103	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	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	117	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5569373)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	125	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.6	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	108	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)								

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: 5569373) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	111	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	118	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	105	71.4	144

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: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	96.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	111	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	106	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	119	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	105	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	110	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	107	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.1	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	123	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	127	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	104	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	101	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	123	66.0	145

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: 5569373) - continued							
ES2402504-002	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	123	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	117	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5569373)							
ES2402504-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	127	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	103	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2402506**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0356_PFASOMP_24	Date Samples Received	: 25-Jan-2024
Site	: Offsite	Issue Date	: 01-Feb-2024
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 60612562_8.1	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW056_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW056_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0356_MW056_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0356_MW056_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0356_MW056_240124	**24-Jan-2024**	**31-Jan-2024**	22-Jul-2024	✓	**01-Feb-2024**	22-Jul-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		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	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

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	: **ES2402506**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0356_PFASOMP_24	Page	: 1 of 2
Order number	: 60612562_8.1	Quote number	: ES2021AECOMAU0030 (SY/139/19 v4 60612562_8.1)
C-O-C number	: 62965	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Offsite		
Sampler	: [redacted]		

Dates

Date Samples Received	: 25-Jan-2024 14:47	Issue Date	: 29-Jan-2024
Client Requested Due Date	: 02-Feb-2024	Scheduled Reporting Date	: **02-Feb-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 0.5'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 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 direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

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)
ES2402506-001	24-Jan-2024 07:55	0356_MW056_240124	✓

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]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email [redacted]
- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- A4 - AU Tax Invoice (INV) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- *AU Certificate of Analysis - NATA (COA) — Email [redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email [redacted]
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email [redacted]
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — Email [redacted]
- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

COC#: 62965 *ALS Laboratory:* ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU003 0

EMAIL REPORTS TO:

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 - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0356_MW056_240124		24/01/2024 07:55 AM	WATER	ALS: 4 Non ALS: 0	No	X		

Environmental Division Sydney

Work Order Reference

ES2402506

Telephone : +61-2-8784 8555

ES2402506

CHAIN OF CUSTODY

ALS COC#: 62965 ALS Laboratory: ES Sydney Environmental

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0356_PFASOMP_24

SITE: Offsite

ORDER NO: 60612562_8.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE: [redacted]

QUOTE NO: SY/139/19 v4 60612562_8.1 / ES2021AECOMAU0030

EMAIL REPORTS TO:

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	0356_MW056_240124	HDPE (no PTFE)	20 mL	00352309069499	Grey	No	
001	0356_MW056_240124	HDPE (no PTFE)	20 mL	00352309069310	Grey	No	
001	0356_MW056_240124	HDPE (no PTFE)	20 mL	00352309069441	Grey	No	
001	0356_MW056_240124	HDPE (no PTFE)	20 mL	00352309069311	Grey	No	

Total Bottle Count: ALS: 4, Non ALS: 0

ALSCompass
SAMPLING *Intelligence*

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: ~~[redacted]~~ 60612562 / 8:1 **Client:** Aecom **Project Manager:** [redacted]

Phone: ([redacted])

ALS Compass COC Reference: 62965 **# Samples:** [redacted] **Sampler:** [redacted]

Phone: ([redacted])

Turnaround Requirements: Standard ✓ Urgent _____

Special Instructions:	ALS Use Only
	Custody seal intact? YES NO N/A
	Free ice / frozen ice bricks upon receipt? YES NO N/A
	Random sample temperature on receipt? 0.5 °C

Custody:

Relinquished by:	**Received by:**	**Relinquished by:**	**Received by:**
[redacted]	WJ	WJ	
Date / Time: 25/01/23 @ 1445	**Date / Time:** 25-1-24 2:47pm	**Date / Time:** 25-1-24	**Date / Time:**

LAB OF ORIGIN:
NEWCASTLE

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

CERTIFICATE OF ANALYSIS 342545

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**NSW_0356_PFASOMP_24**
Number of Samples	3 Water, 3 Soil
Date samples received	30/01/2024
Date completed instructions received	30/01/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	06/02/2024
Date of Issue	06/02/2024

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Results Approved By
[redacted], LC/Air Toxics Supervisor
[redacted], Senior Chemist
[redacted], Operation Manager

Authorised By
[redacted], Laboratory Manager

PFAS in Soils Extended			
Our Reference		342545-2	342545-5
Your Reference	UNITS	0356_QC201_240123	0356_QC204_240123
Date Sampled		23/01/2024	23/01/2024
Type of sample		Soil	Soil
Date prepared	-	31/01/2024	31/01/2024
Date analysed	-	31/01/2024	31/01/2024
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	3.0	1.1
Perfluorodecanesulfonic acid	µg/kg	2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	98	101
Surrogate $^{13}C_2$ *PFOA*	%	100	99
Extracted ISTD $^{13}C_3$ *PFBS*	%	89	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	88
Extracted ISTD $^{13}C_4$ *PFOS*	%	86	78

PFAS in Soils Extended			
Our Reference		342545-2	342545-5
Your Reference	UNITS	0356_QC201_240123	0356_QC204_240123
Date Sampled		23/01/2024	23/01/2024
Type of sample		Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	88	92
Extracted ISTD $^{13}C_3$ *PFPeA*	%	91	97
Extracted ISTD $^{13}C_2$ *PFHxA*	%	90	93
Extracted ISTD $^{13}C_4$ *PFHpA*	%	91	93
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	91
Extracted ISTD $^{13}C_5$ *PFNA*	%	90	71
Extracted ISTD $^{13}C_2$ *PFDA*	%	81	58
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	43	28
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	51	42
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	77	50
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	88	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	100	70
Extracted ISTD $^{13}C_8$ *FOSA*	%	80	63
Extracted ISTD d_3 *N MeFOSA*	%	48	57
Extracted ISTD d_5 *N EtFOSA*	%	65	58
Extracted ISTD d_7 *N MeFOSE*	%	65	65
Extracted ISTD d_9 *N EtFOSE*	%	69	62
Extracted ISTD d_3 *N MeFOSAA*	%	86	73
Extracted ISTD d_5 *N EtFOSAA*	%	65	53
Total Positive PFHxS & PFOS	µg/kg	3.0	1.1
Total Positive PFOS & PFOA	µg/kg	3.0	1.1
Total Positive PFAS	µg/kg	4.9	1.1

Moisture			
Our Reference		342545-2	342545-5
Your Reference	UNITS	0356_QC201_240123	0356_QC204_240123
Date Sampled		23/01/2024	23/01/2024
Type of sample		Soil	Soil
Date prepared	-	31/01/2024	31/01/2024
Date analysed	-	01/02/2024	01/02/2024
Moisture	%	43	30

PFAS in Waters Extended			
Our Reference		342545-1	342545-3
Your Reference	UNITS	0356_QC200_240123	0356_QC202_240123
Date Sampled		23/01/2024	23/01/2024
Type of sample		Water	Water
Date prepared	-	31/01/2024	31/01/2024
Date analysed	-	31/01/2024	31/01/2024
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	106	105
Surrogate $^{13}C_2$ *PFOA*	%	132	114
Extracted ISTD $^{13}C_3$ *PFBS*	%	101	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	121	116
Extracted ISTD $^{13}C_4$ *PFOS*	%	85	91

PFAS in Waters Extended			
Our Reference		342545-1	342545-3
Your Reference	UNITS	0356_QC200_240123	0356_QC202_240123
Date Sampled		23/01/2024	23/01/2024
Type of sample		Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	91	96
Extracted ISTD $^{13}C_3$ *PFPeA*	%	92	92
Extracted ISTD $^{13}C_2$ *PFHxA*	%	107	106
Extracted ISTD $^{13}C_4$ *PFHpA*	%	123	120
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	99
Extracted ISTD $^{13}C_5$ *PFNA*	%	101	105
Extracted ISTD $^{13}C_2$ *PFDA*	%	116	111
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	100	112
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	79	78
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	83	74
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	122	85
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	123	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	127	106
Extracted ISTD $^{13}C_8$ *FOSA*	%	124	123
Extracted ISTD d_3 *N MeFOSA*	%	105	102
Extracted ISTD d_5 *N EtFOSA*	%	91	93
Extracted ISTD d_7 *N MeFOSE*	%	126	135
Extracted ISTD d_9 *N EtFOSE*	%	100	95
Extracted ISTD d_3 *N MeFOSAA*	%	102	83
Extracted ISTD d_5 *N EtFOSAA*	%	136	114
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			31/01/2024	[NT]	[NT]	[NT]	[NT]	31/01/2024	[NT]
Date analysed	-			31/01/2024	[NT]	[NT]	[NT]	[NT]	31/01/2024	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	97	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
10:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	101	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	127	[NT]	[NT]	[NT]	[NT]	118	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	122	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	121	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	111	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	342545-3
Date prepared	-			31/01/2024	1	31/01/2024	31/01/2024		31/01/2024	31/01/2024
Date analysed	-			31/01/2024	1	31/01/2024	31/01/2024		31/01/2024	31/01/2024
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	112	104
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	113	111
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	94
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	104
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	112	108
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	93
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	101
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	114
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	113	127
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	86
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	117
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	100	95
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	83
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	115	107
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	112
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	110	112
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	105	91
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	91	88
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	94
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	86
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	119	98
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	87
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	107	104
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	103
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	111	102
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	108	99
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	117	126
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	100
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	106	1	106	102	4	106	104
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	110	1	132	126	5	119	123

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	342545-3
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	97	1	101	102	1	96	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	109	1	121	123	2	107	115
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	91	1	85	88	3	91	89
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	96	1	91	90	1	94	94
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	97	1	92	93	1	99	89
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	102	1	107	100	7	106	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	118	1	123	120	2	106	123
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	93	102	9	96	92
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	98	1	101	102	1	105	101
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	104	1	116	112	4	100	118
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	101	1	100	104	4	99	104
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	88	1	79	76	4	84	78
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	79	1	83	80	4	73	72
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	115	1	122	130	6	117	79
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	109	1	123	122	1	111	94
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	117	1	127	130	2	120	107
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	112	1	124	124	0	110	119
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	106	1	105	101	4	107	106
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	91	93	2	95	95
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	119	1	126	120	5	115	127

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	342545-3
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	97	1	100	102	2	98	99
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	107	1	102	102	0	103	81
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	118	1	136	130	5	117	110

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	NSW_0356_PFASOMP_24
Envirolab Reference	342545
Date Sample Received	30/01/2024
Date Instructions Received	30/01/2024
Date Results Expected to be Reported	06/02/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Water, 3 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8.0
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

[redacted]	[redacted]
Phone: [redacted]	**Phone:** [redacted]
Fax: [redacted]	**Fax:** [redacted]
Email: [redacted]	**Email:** [redacted]

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph [redacted] fax [redacted]

Sample ID	AECOM checks	AECOM checks	AECOM checks	AECOM INORG checks	AECOM checks	PFAS in Soils Extended	PFAS in Waters Extended	On Hold
0356_QC200_240123	✓	✓	✓	✓	✓		✓	
0356_QC201_240123	✓	✓	✓	✓	✓	✓		
0356_QC202_240123	✓	✓	✓	✓	✓		✓	
0356_QC203_240123								✓
0356_QC204_240123	✓	✓	✓	✓	✓	✓		
0356_QC205_240124								✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CHAIN OF CUSTODY FORM

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ENVIROLAB GROUP
National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
✆ 02 9910 6200 | ✉ sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
✆ 08 9317 2505 | ✉ lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
✆ 03 9763 2500 | ✉ melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
✆ 08 7087 6800 | ✉ adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
✆ 07 3266 9532 | ✉ brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
✆ 08 8967 1201 | ✉ darwin@envirolab.com.au

Company:	AECOM
Contact Person:	[redacted]
Project Mgr:	[redacted]
Sampler:	[redacted]
Address:	Level 6, 420 George St, Sydney, NSW, 2000
Phone:	Mob: [redacted]
Email Results to:	[redacted]
Email Invoice to:	[redacted]

Client Project Name/Number/Site etc (ie report title): NSW_0356_PFASOMP_24

PO No. (if applicable): 60612562_8.1

Envirolab Quote No. :

Date results required:

Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ✓Esdat | Equis

Lab Comments:

Sample Information					Tests Required																Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information		Date Sampled	Type of Sample	PFAS Extended Suite - Routine Level	ON HOLD															Provide as much information about the sample as you can
1	0356_QC200_240123		23/01/2024	Water	X																
2	0356_QC201_240123		23/01/2024	~~Water~~ Soil	X																
3	0356_QC202_240123		23/01/2024	Water	X																
4	0356_QC203_240123		23/01/2024	Water	X	X															
5	0356_QC204_240123		23/01/2024	~~Water~~ Soil	X																
6	0356_QC205_240124		24/01/2024	Soil	X	X															
	[redacted]		[redacted]	[redacted]	[redacted]																
	[redacted]		[redacted]	[redacted]	[redacted]																

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): AECOM	Received by (Company): ES & YD	*Lab Use Only*
Print Name: [redacted]	Print Name: [redacted]	Job number: 342545 / Cooling: (Ice) / Ice pack / None
Date & Time: 25/01/24	Date & Time: 30/1/24 1000	Temperature: 8.0 / Security seal: (Intact) / Broken / None
	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / (STD)

To DERP.labreports@esdat.com.au and ensure that the files use the PROJECT NAME