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Ongoing Monitoring Report (October 2022 - September 2023)

PFAS OMP - Holsworthy Army Barracks

26-Jul-2024
PFAS Ongoing Monitoring Program
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PFAS OMP - Holsworthy Army Barracks

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 1800 868 654 www.aecom.com
ABN 20 093 846 925
T +61 1800 868 654 www.aecom.com
ABN 20 093 846 925

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List of Acronyms

Acronym	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
BoM	Bureau of Meteorology
CSM	Conceptual Site Model
Defence	Department of Defence
DoH	Department of Health
DSI	Detailed Site Investigation
EPA	Environment Protection Authority
FSANZ	Food Standards Australia New Zealand
GW	Groundwater
GWE	Groundwater Elevation
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
LFS	Liverpool Fire Station
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
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PMAP	PFAS Management Area Plan
QC	Quality Control
Redox	Reduction-Oxidation
SAQP	Sample and Analysis Quality Plan
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Standing Water Level

List of Units

Units	Term
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	Micro Siemens 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
mV	Millivolts
mm	Millimetre

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 Holsworthy Army Barracks (the 'Site') in New South Wales (NSW).

Objective

The overarching objective of implementing the OMP is to provide information on changes in the location and concentrations of PFAS on-Site, and at the Fire & Rescue NSW Liverpool Fire Station (LFS) and surrounds including the Management Area (comprising of on-Site and off-Site areas where the PFAS sources were identified). The data is required to assist risk management decisions by Defence and State Government agencies to protect human health and the environment, where Defence's historical use of legacy Aqueous Film Forming Foam (AFFF) has led to an identified potentially elevated risk to a receptor, or potential future risk to a receptor.

Monitoring Scope

AECOM completed periodic monitoring of groundwater and surface water between October 2022 and September 2023 in accordance with the sampling and analysis quality plan (SAQP) developed by AECOM (2023d). This monitoring targeted PFAS, namely perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS). It included selected locations on-Site and in surrounding off-Site areas, including the Management Area.

Groundwater Results

Groundwater Flow Directions

Groundwater flow on the Site is influenced by topography, with inferred groundwater flow direction:

- to the northwest and north in the Former 85 Transport Area
- to the northeast in the Cantonment and Driver Training Area, the Sewage Treatment Plant (STP) and LFS.

The flow directions are consistent with previous observations. It is noted that the groundwater elevation at the LFS and surrounds decreased during the monitoring period, which corresponded with the below average rainfall.

PFAS Concentrations

Monitoring results indicated, that with the exception of a number of first-time detections and new maximums, the concentrations of PFAS in groundwater were similar to previous results, with the highest PFAS concentrations reported at monitoring wells in the vicinity of the LFS. There were first-time detections of PFAS in off-Site wells, MW130 and MW131, located down hydraulic gradient of the LFS.

New maximum PFAS concentrations were reported in one well (MW330) at the Former 85 Transport Area, and in eight wells (MW113, MW119, MW119P, MW129, MW130, MW131, MW133 and MW136) at LFS and surrounds. The groundwater sample locations are shown on **Figure F2** in **Appendix A**.

Where new maximums were observed, these concentrations were similar in magnitude with the elevated results during the previous monitoring period. These new maximums are potentially a result of the unprecedented heavy rainfall conditions observed in July 2022, which potentially may have resulted in the mobilisation of PFAS in the vadose zone.

Surface Water Results

Concentrations of PFAS in surface water reported two new historical minimums at the same location (SW011). These concentrations were within the same order of magnitude to historical ranges. The surface water sample locations are shown on **Figure F2** in **Appendix A**.

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.

Interpretive Assessment

PFAS concentrations within the on-Site and off-Site groundwater and surface water were similar to historical results or within the same order of magnitude to historical ranges.

PFAS concentrations in groundwater remained the highest in the vicinity of LFS, with increases in PFAS concentrations in groundwater reported in two perched wells (MW119P and MW133) and five alluvial wells (MW113, MW119, MW129, MW130 and MW131) near the LFS. The increases are potentially attributed to the higher-than-average rainfall events experienced during the previous monitoring period, which has increased the groundwater elevation resulting in longer contact with PFAS impacted soils. The highest PFAS concentrations on-Site were reported at the Former 85 Transport Area.

Conceptual Site Model and Risk Summary

The Conceptual Site Model (CSM) was developed during the Detailed Site Investigation (DSI) (CH2M HILL, 2018) and is summarised in the OMP. The CSM described the links between PFAS sources, transport pathways, and possible exposure scenarios.

OMP monitoring between October 2022 and September 2023 has provided additional data to further understand the changing conditions of PFAS concentrations in groundwater and surface water.

While there have been localised increases in PFAS concentrations in groundwater and surface water, there is currently no evidence that the data presented in this report indicate that the PFAS sources, pathways and receptors and the understanding of the CSM have changed. AECOM considers the overarching risk profile has not changed based on the current land use at the Site and surrounds, including the Management Area.

Conclusions

The sampling program completed in this monitoring period is considered to have been conducted in general accordance with the SAQP and have met the objectives of the OMP. The following conclusions are based on the data collected during the monitoring period:

- Groundwater depths during the monitoring period were generally lower than the previous monitoring data (between 2021 and 2022), due to the reduced rainfall observed across the Site and surrounding areas.
- Overall, the concentrations of PFAS in the majority of groundwater samples analysed were similar to previous results. An increasing trend of PFAS concentrations has continued in groundwater monitoring wells located at and down-gradient of the LFS, and at the Former 85 Transport Area. The reason for the increase is not known, however may be related to increased rainfall over the previous monitoring period, which may be potentially contributing to localised changes in mobilisation and transport of PFAS.
- In locations 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 historic maximum observations.
- PFAS concentrations in the majority of surface water samples analysed were similar to historical results. Two new minimum concentrations at SW011 were reported during the monitoring period, which remained within an order of magnitude of historical observations for the location.

- The CSM was reviewed, and no changes were identified to source, pathway or receptors at the Site, LFS and surrounds.
- Based on the data no changes to the risk profile were identified.

Ongoing monitoring of groundwater and surface water as part of the OMP will continue to monitor the nature and extent of PFAS, potential migration and any associated changes to the risk profile.

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) at the Australia Army Holsworthy Barracks (the 'Site') (**Figure F1** in **Appendix A**).

The monitoring targeted PFAS in groundwater and surface water at selected locations on-Site and at the Fire & Rescue NSW Liverpool Fire Station (LFS) and surrounds, including the Management Area.

In order to meet the objectives of the OMP (Defence, 2020a), the monitoring was undertaken in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2023d) (included in **Appendix D**).

This report has been prepared in accordance with the *PFAS OMP Annual Interpretive Report Guidance* (Version 0.4) issued in October 2022 (Defence, 2022) based on monitoring data collected between October 2022 and September 2023 (the 'monitoring period').

1.1 Objective

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

The assessment of changes in the distribution, concentration, and transport of the contaminants 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.
- early warning that additional management of PFAS contamination may be warranted in areas not currently understood to be affected by PFAS.

The data will be evaluated to determine environmental variability and trends in PFAS concentrations. This will inform any change to risk profile and recommendations for triggers to review the OMP (Defence, 2020a) or the PFAS Management Area Plan (PMAP) (Defence, 2020b).

1.2 Scope

The scope of works for this interpretive report included assessing changes to the distribution of PFAS over the monitoring period (October 2022 and September 2023) and if these changes have implications for the understanding of the conceptual site model (CSM) and the risk profile with respect to PFAS impacts at the Site. The scope of work included the following sampling carried out at the on-Site and off-Site areas:

- quarterly groundwater and surface water sampling (December 2022)
- biannual groundwater and surface water sampling (March 2023)
- quarterly groundwater and surface water sampling (June 2023)
- biannual groundwater and surface water sampling (September 2023).

This included the evaluation of data reported in the following factual reports:

- *Sampling Event Factual Report, December 2022. PFAS OMP – Holsworthy Barracks.* 09 May 2023 (AECOM, 2023a)
- *Sampling Event Factual Report, March 2023. PFAS OMP – Holsworthy Barracks.* 02 June 2023 (AECOM, 2023b)
- *Sampling Event Factual Report, June 2023. PFAS OMP – Holsworthy Barracks.* 09 August 2023 (AECOM, 2023c)

- *Sampling Event Factual Report, September 2023. PFAS OMP – Holsworthy Barracks.* (Rev 0). 26 March 2024 (AECOM, 2024).

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

AECOM also compared data collected during this monitoring period (October 2022 and September 2023) to the historical data collected at the sampling locations.

2.0 Site Setting

2.1 Site Description

The Site identification and setting as presented in the Detailed Site Investigation (DSI) (CH2M HILL, 2018) and PMAP (Defence, 2020b), and publicly available information are summarised in **Table 1** below.

Table 1 Site Identification and Setting Summary

Element	Description
Site ID	0382
Site Location	The Site is located approximately 25 km south west of Sydney. The Site is shown on **Figure F1** in **Appendix A**.
Regional Meteorology	Review of the BoM data (BoM, 2024) for the 12-month monitoring period at the closest weather station (Holsworthy Defence automatic weather station (AWS) [station 068263]) (October 2022 to September 2023) indicates the following: • Monthly mean maximum temperatures varied between 18.0°C (June 2023) and 28.7°C (January 2023). The average monthly mean maximum across the 12-month monitoring period was 24.5°C. • Historically (Holsworthy Aerodrome AWS (station 066161) 2015 to 2019 and Holsworthy Defence ASW 2019 to 2023) the driest month has been May (averaging 40.4 mm rainfall across the month), and the wettest month has been March (averaging 188.7 mm rainfall across the month). • A total of 799.8 mm of rainfall was recorded in the monitoring period, with July 2023 being the driest month (10.8 mm), and January 2023 being the wettest month (110.8 mm)[1].
Topography and Hydrology	Holsworthy and the surrounding area are characterised by variable terrain, with topography ranging from gently undulating crests, ridges and plateaus (relief between 10 and 40 m and slopes <10%) to rugged, steep hills (relief between 100 and 200 m and slopes >50%. Ground surface elevations are highest to the south of the range areas, at over 300 m Australian Height Datum (m AHD), and generally decline towards the north, where they are typically less than 10 m AHD (Defence, 2020b). The geology of the Site and surrounding area comprises alluvium overlaid by Hawksbury sandstone or Ashfield shale (Defence, 2020b). Previous investigations have identified the following water bearing zones: • Shallow perched groundwater within fill material/residual soils, and alluvial soils. • Deeper groundwater in alluvial soil, sandstone or shale (Defence 2020b). The Site is located within the Upper Georges River Catchment. The Georges River begins near the community of Appin, from where it flows in a northerly direction towards Liverpool and then easterly before discharging into Botany Bay. The Georges River receives flow from several tributaries draining the Site including: • Harris Creek • Williams Creek

[1] Daily rainfall data from Holsworthy Aerodrome (Station ID 068263) (historical data not available for this station)

Element	Description
	• Deadmans Creek • Complete Creek • Anzac Creek. The Site has an extensive stormwater drainage system, with most of the infrastructure in the main barracks area (Defence, 2020b). Site plans indicate that the stormwater drains discharge to either unsealed (e.g. grass, dirt) regions of the Site, to settling ponds, or to creek lines. The ultimate discharge of stormwater from most developed areas of Holsworthy is to Harris or Williams Creeks, except for the north west portion of the Site (including the former 85 Transport area) where surface water run-off is expected to reach the upper portion of Anzac Creek. The DSI (CH2M HILL, 2018) noted that overland flow from the southern part of the Former 85 Transport area (Old Pass Office Area) was uncertain but was inferred to flow towards the Georges River in the west and to Anzac Creek in the north. Additional desktop assessment and site observations during significant rain events by Jacobs as part of the Holsworthy PFAS Mass Flux Study SAQP development confirmed that overland flow from this area drains north, along the eastern side of Moorebank Avenue to Anzac Creek. No overland flow to Georges Creek from this area was observed. Overland flow in the undeveloped area in the southern portion of the Site would drain to Deadmans Creek located approximately 5.7 km to the north west of the Site.
Geology and Hydrogeology	The Site is variably mapped as Triassic age Hawkesbury Sandstone, the Wianamatta Group, Mittagong Formation and Quaternary and Tertiary age alluvium. The Hawkesbury Sandstone is the dominant geology of the Site and surrounding area. There are remnants of Wianamatta Group Ashfield Shale at the Site, and the Mittagong Formation has not been encountered at the Site. The Hawkesbury sandstone aquifers of the Hawkesbury Sandstone are generally unconfined to semi-confined. The shales of the Wianamatta Group overlie the Hawkesbury Sandstone and have largely been eroded away with some significant outcrops remaining in parts of the Site. Groundwater within the Wianamatta Group is typically brackish to saline and are generally considered aquitards. Groundwater movement in the bedrock aquifer is governed by fractures. The Moorebank area where the LFS is located is mainly underlain by Quaternary alluvial sediments which also extend into the northern portion of the Site including the STP. The alluvium variably comprises fluvial sand, silt and clay. During the DSI (CH2M HILL, 2018), the depth to the top of the weathered bedrock was reported to be typically > 1 metres below ground surface (mbgs). Groundwater conditions and flow direction for areas of the Site and surrounding areas are summarised below: • Luscombe Airfield – mainly Hawkesbury Sandstone bedrock aquifer at a depth of 4 to 28 mbgs and a localised shallow perched groundwater in fill and an overall northerly groundwater flow direction. • Cantonment Area - mainly Hawkesbury Sandstone bedrock aquifer at a depth of 1.1 to 15 mbgs and a localised shallow perched groundwater in fill and an overall northerly groundwater flow direction. • Former STP – shallow alluvial aquifer at a depth of 1.6 to 4.7 mbgs and an overall northerly groundwater flow direction. The bedrock aquifer has not been characterised in this area.

Element	Description
	• Western Holsworthy (west of Harris Creek) – two formations including a discontinuous perched groundwater in alluvium at depths from 1.0 to 5.9 mbgs and Ashfield Shale aquifer at depths from 3.8 to 15 mbgs, and a bedrock aquifer primarily within Hawkesbury Sandstone (at depths from 3.8 to 15 mbgs), and also within Ashfield Shale (at depths from 2.5 to 7 mbgs). Groundwater flow direction is overall in a north westerly direction. • Liverpool Fire Station – two formations including a shallow perched waterbody (localised and discontinuous) found close to Anzac Road and an associated open drainage line, with a depth to groundwater ranging from 2.3 mbgs to 4.1 mbgs, and a deeper alluvial aquifer/aquitard (within a clayey alluvial deposit) at a depth of 2.3 mbgs to 7.1 mbgs. The bedrock aquifer has not been characterised in this area.
Vegetation	The Human Health and Ecological Risk Assessment (HHERA) Report (CH2M HILL, 2020) included a review of previous flora studies which identified the following: • Vegetation communities within the Site and immediate surrounds are: - Shale Plains Woodland - Shale/Gravel Transition Forest - Castlereagh Scribbly Gum Woodland - Upper Georges River Sandstone Woodland • 10 threatened ecological communities were listed within a 10 km radius of the Site under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) • 16 areas of ecological constraint with a potentially 'high' risk rating exist within the Site. Flora with high ecological constraint were: - Nodding geeburg (*Persoonia nutans)* - *Allocasuarina glareicola.*
Land Uses Surrounding the Site	• Holsworthy Barracks: a mixture of Industrial land uses and low and medium density residential properties to the north and west. Heathcote National Park is located to the south of Holsworthy Barracks and forms the southern section of the eastern boundary. • LFS: is bounded by residential dwellings to the east and north, Moorebank Business Park to the west and Defence Joint Unit East facility to the south. The projected land use in the area is not anticipated to materially change within the next 5 years.

2.2 Management Area

The Management Area comprises on-Site and off-Site areas where the PFAS sources were identified. Further details of the PFAS source areas are provided in **Section 2.3**. The Management Area is shown on **Figure F1** in **Appendix A**.

2.3 PFAS Source Areas

The PMAP (Defence, 2020b) provides a roadmap for response management by Defence of potential risks arising from PFAS contamination associated with the Site and surrounding areas. PFAS can travel from a source to human or environmental receptors by surface water and groundwater, these are referred to as 'migration pathways'.

The PMAP (Defence, 2020b) identified the following locations as Primary Source Areas:

- **On-Site areas**
  - Former 85 Transport Area
  - Former Luscombe Sewage Disposal Area

  - Luscombe Airfield Runway
  - Former STP Area
- **Off-Site areas**
  - LFS and surrounding area.

The source areas are shown on **Figure F1** in **Appendix A**.

3.0 Sampling and Analytical Methodology

3.1 Sampling Methodology

The SAQP (AECOM, 2023d) was developed to be consistent with the OMP (Defence, 2020), and outlines the proposed schedule and rationale for sampling, prescribing annual groundwater and six-monthly surface water sampling at the Site and Management Area, and provides the list of groundwater monitoring wells and surface water locations sampled during each sampling event, along with the sampling methodology for each of the media. No changes to the monitoring network have been made since the development of the OMP.

The current SAQP has been included in **Appendix D**.

A summary of the OMP monitoring events completed in general accordance with the SAQP during the monitoring period is provided in **Table 2**.

Table 2 Summary of Monitoring Events

Monitoring Event (Sampling dates)	Scope as per SAQP	Samples Collected	Analysis
December 2022 Quarterly sampling (5 December 2022)	**Off-Site**		
	12 GW samples	11 GW samples	PFAS extended suite (standard level)
	3 SW samples	3 SW samples	
March 2023 Biannual sampling (13 to 15 March 2023)	**On-Site**		
	12 GW samples	12 GW samples	PFAS extended suite (standard level)
	5 SW samples	5 SW samples	
	Off-Site		
	12 GW samples	11 GW samples	PFAS extended suite (standard level)
	12 SW samples	12 SW samples	
June 2023 Quarterly sampling (13 June 2023)	**Off-Site**		
	12 GW samples	10 GW samples	PFAS extended suite (standard level)
	3 SW samples	1 SW samples	
September 2023 Biannual sampling (11 to 13 September 2023)	**On-Site**		
	12 GW samples	12 GW samples	PFAS extended suite (standard level)
	5 SW samples	3 SW samples	
	Off-Site		
	12 GW samples	10 GW samples	PFAS extended suite (standard level)
	12 SW samples	10 SW samples	

Notes: GW = groundwater, SW = surface water

Some locations could not be sampled during the sampling events. The impediments encountered are detailed in **Section 3.2**, below.

3.2 Deviations from SAQP

Deviations from the scope outlined in SAQP for the monitoring period are summarised in **Table 3** below.

Table 3 Deviations from SAQP during the monitoring period

SAQP Requirement	Sampling Event Deviation	Impact of deviation on data set
Quarterly Sampling Event – December 2022		
12 groundwater locations are identified to be sampled as part of the quarterly sampling event	Groundwater monitoring well MW115 was not accessible due to a demountable building being placed over the well and could not be gauged and sampled during this event	The lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be representative of PFAS concentrations within the LFS area.
Temperature, electrical conductivity, dissolved oxygen, oxidation reduction potential, pH and observations of water quality will be recorded for all groundwater and surface water samples.	Due to insufficient water in the HydraSleeve™ installed at the groundwater monitoring well MW134, geochemical parameters were unable to be collected.	The lack of geochemical parameters at this location is not considered to have a significant impact on the outcomes of the OMP, as geochemical parameters are not critical to the assessment and interpretation of PFAS concentrations at the location.
Biannual Sampling Event – March 2023		
24 groundwater locations are identified to be sampled as part of the biannual sampling event	Groundwater monitoring well MW115 remained inaccessible during this monitoring event due to a demountable building being placed over the well within the LFS. AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	As per December 2022, the lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be representative of PFAS concentrations within the LFS area.
Quarterly Sampling Event – June 2023		
12 groundwater locations are identified to be sampled as part of the quarterly sampling event	Groundwater monitoring well MW115 remains inaccessible during this monitoring event as per March 2023. AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	As per March 2023, the lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be appropriately located to provide representative PFAS concentrations within the LFS area.
	Groundwater monitoring well MW134 had insufficient water column and could not be sampled during this sampling event.	MW134 was installed to target discontinuous perched water that is anticipated to contain water during wet periods. therefore, the location being dry

SAQP Requirement	Sampling Event Deviation	Impact of deviation on data set
		is likely to be attributed to below average rainfall received prior to the sampling event. The lack of sampling data and water quality parameters for MW134 is not considered to have a significant impact on the dataset based on the perched nature of the well. It is noted that the well was sampled during the previous sampling event in in March 2023.
3 surface water sample locations are identified to be sampled as part of the quarterly sampling event	Surface water location SW001 and SW111 were dry and could not be sampled during this sampling event	The dry conditions at these locations confirm the pathway linkages between source and receptor for PFAS in surface water were incomplete at the time of sampling. The lack of sampling data and water quality parameters for these locations are not considered to have a significant impact on the dataset or present a significant data gap as the locations were subsequently sampled (SW001 was sampled in March 2023 and during the subsequent event in September 2023, whilst SW111 was sampled in March 2023 but was found to be dry again in September 2023), and the dry condition still informs the surface water CSM.
Biannual Sampling Event – September 2023		
24 groundwater locations are identified to be sampled as part of the biannual sampling event	Groundwater monitoring well MW115 remained inaccessible during this monitoring event as per March 2023. AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	As per June 2023, the lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be representative of PFAS concentrations within the LFS area.
	Groundwater monitoring well MW134 was dry and therefore could not be sampled during this sampling event.	MW134 was installed to target discontinuous perched water that is anticipated to contain water during wet periods. As such, the absence of water during this sampling event provides meaningful information for the understanding of the conceptual site model (CSM). As such, the location being dry during periods of low rainfall should not be considered unexpected, or a significant deviation, rather a

SAQP Requirement	Sampling Event Deviation	Impact of deviation on data set
		confirmation of the discontinuous nature of the perched aquifer. Furthermore, samples were collected during the previous monitoring events in March 2023, December 2022 and September 2022.
17 surface water sample locations are identified to be sampled as part of the biannual sampling event	Surface water location SW111 was dry and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW111 location is not considered to have a significant impact on the dataset, or present a significant data gap. The dry conditions confirm the pathway linkages between source and receptor for PFAS in surface water were incomplete at the time of sampling.
	Surface water location SW014 was unable to be accessed due to hazard reduction burns and road closures in the surrounding areas and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW014, for an individual sampling event, is not considered to have a significant impact on the dataset or present a significant data gap, as it was sampled in March 2023 and a number of other surface water locations upstream of SW014 were sampled near the STP area (SW011, SW012 and SW017).
	Surface water locations SW030 and SW038 were unable to be accessed due to hazard reduction burns and road closures in the surrounding areas and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW030 and SW038 may present a potential data gap. However, note that the water from sample location SW030 and SW038 flows from the Luscombe Airfield area and discharges into Williams Creek, which is sampled at the point of exit from the Site, at SW009. This location was sampled during this sampling event.

4.0 Quality Assurance and Quality Control

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

Data validation procedures employed in the assessment of the field and laboratory Quality Assurance and Quality Control data, completed as per Section 3.2 of the SAQP (AECOM, 2023d), 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 factual reports and this OMR.

All data collected during the monitoring period had been reviewed and uploaded to the Defence ESdat database in accordance with the Defence Contamination Management Manual 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], 2000), 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 including:

- Heads of EPA (HEPA) Australia and New Zealand, 2020. PFAS National Environmental Management Plan (NEMP) Version 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 Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water. August 2019.
- National Environment Protection Council (NEPC), 2013. National Environment Protection (Assessment of Site Contamination) Measure 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 monitoring are presented in **Table 4** (Human Health) and **Table 5** (Ecological).

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, 2020) are from the DoH (2017), which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH utilised the Tolerable Daily Intake for PFOS and PFOA from Food Standards Australia New Zealand (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. 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	

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 in the PFAS NEMP (HEPA, 2020). *All surface water results were compared to these criteria.*
		PFOA	10 µg/L	

Table 5 PFAS Criteria Summary: Ecological

Media	Pathway	Chemical	Criteria	Comment/Reference
Water – surface water and groundwater	Freshwater	PFOS	0.13 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. The 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results were compared to these criteria.*
		PFOA	220 µg/L	

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

6.0 Contextual and Ancillary Information

6.1 PFAS Projects

The following is a summary of works completed during the monitoring period which was provided by Defence's Lead Consultant (LC), Jacobs Group Pty Ltd (Jacobs).

6.1.1 Additional Analytical Data

The LC advised that limited additional analytical data was collected during the current monitoring period. On 23 and 24 October 2022, following precipitation of 13.6 mm of rainfall, Jacobs collected a surface water sample from surface water location SW110, located to the eastern side of Moorebank Avenue, targeting water draining from Former 85 Transport Area and the Site (from the south to north direction). Surface water was observed to drain towards the railway corridor and did not appear to cross Moorebank Avenue. Analytical results detected 0.08 µg/L of PFOS+PFHxS.

Sampling of this location has been removed from the OMP scope in early 2022 due to access concerns and, additionally, the area was observed to be dry during sampling events in September 2020, March 2021, and September 2021, and the location was therefore considered to not be a complete S-P-R linkage between Former 85 Transport Area and Anzac Creek. AECOM has been advised that Defence intends to undertake additional sampling at SW110 during significant rainfall events in order to further assess this drainage pathway.

6.1.2 PFAS Remediation Projects

The LC advised that no remediation works were undertaken at the Site during the monitoring period.

6.2 Other Projects

6.2.1 Heathcote Road Upgrade Works

The LC noted that the Heathcote Road upgrade works, which includes upgrades to the bridges at Harris Creek and Williams Creek as part of the works between Infantry Parade, Holsworthy and The Avenue, Voyager Point were ongoing. As noted in the OMR (AECOM, 2023e), the works commenced in late 2021. While there is the potential for ground disturbance activities to have mobilised PFAS in these areas, the monitoring data from surface water locations SW009 and SW011, which are downstream of the works on Williams Creek, have not reported any new maximums or increasing trends in concentrations of PFAS during this monitoring period.

6.2.2 Moorebank Logistics Park

The LC noted the ongoing development of the Moorebank Logistics Park on Moorebank Avenue, north of the Site. The NSW EPA has issued an Environment Protection License (License 21054) for the scheduled activities of contaminated soil treatment and crushing, grinding or separating works. The LC understands that these activities are being carried out as part of the development of the site.

The license permits the discharge of water containing PFOS up to 0.13 µg/L, PFHxS up to 2 µg/L and PFOA up to 10 µg/L. The license notes the combined PFOS+PFHxS concentration in the discharge cannot exceed 2 µg/L. The permitted discharge points include discharges to the Georges River and to Anzac Creek. The Anzac Creek discharge point is downstream of where drainage from the Former 85 Transport area would enter Anzac Creek and upstream of where drainage from the LFS would enter Anzac Creek.

These discharges have been considered in the analysis of the OMP data.

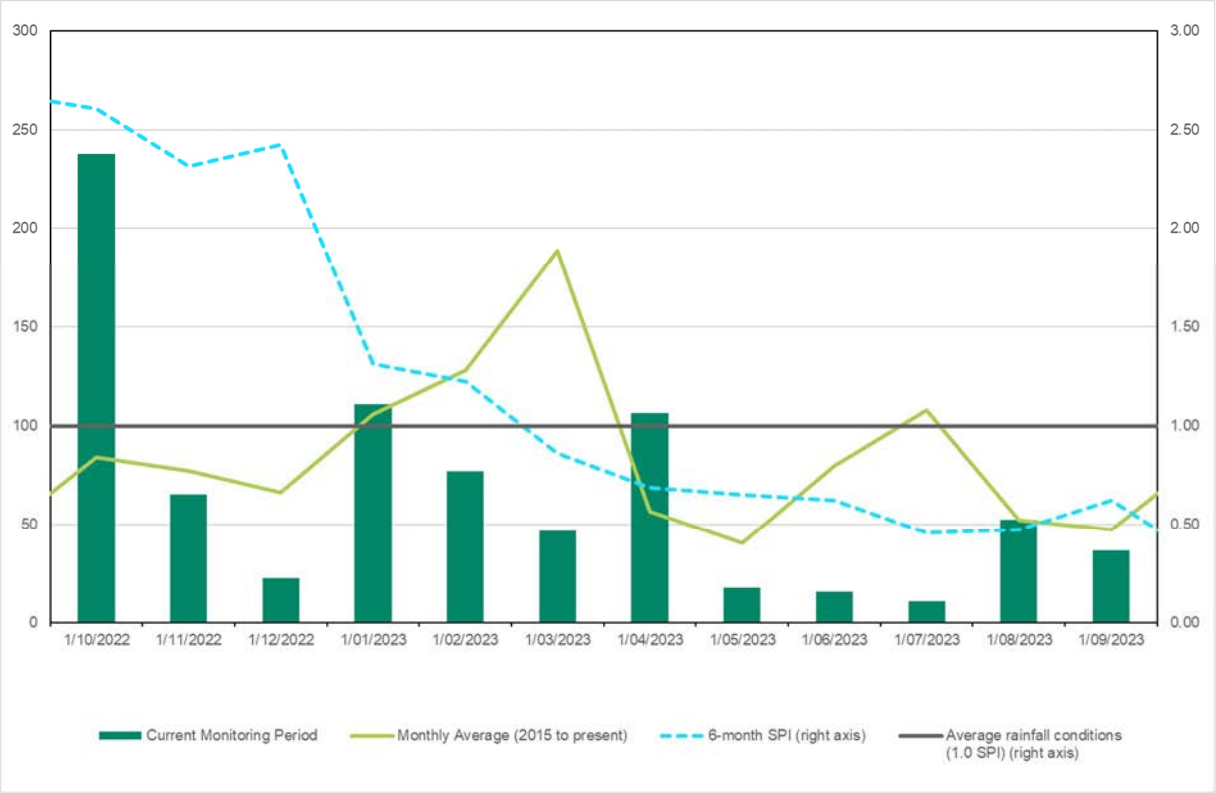
6.2.3 Former Sewage Treatment Plant

The LC noted that Defence is undertaking decommissioning and demolition works at the Former STP Area on Site. Information on the scope of these works and any PFAS testing undertaken was still being sought by the LC at the time of preparing this report. These works have been considered in the interpretation of relevant data in Section 8.

6.3 Significant Weather Events

The rainfall data for the reporting period is presented in **Figure 1** below against historical ranges on record from the BoM monitoring stations located at Holsworthy Defence AWS (Station ID 068263) and Holsworthy Aerodrome AWS (Station ID 066161) since the weather stations began operation in 2015 and 2019, respectively.

Figure 1 Recorded Rainfall (Monitoring Period) Against Historic Average



As noted in **Table 1** in **Section 2.1** the annual rainfall at the Site was 799.8 mm for the monitoring period, compared to 1,034.0 mm per annum average for the two Holsworthy AWS with historical rainfall data back to 2015. Rainfall in the monitoring period was lower than average, following below average rainfall in December, March, May, June and July.

Included in **Figure 1** is a 6-month Standardised Precipitation Index (SPI), which presents monthly rainfall against the average monthly rainfall as a value, where 1 is the average rainfall, and where 2 is twice the average monthly rainfall. This allows for medium term assessment on the rainfall experienced by the area over the monitoring period.

Historically, the Site is wettest in March and driest in May. During the monitoring period, there was a total of 134 wet weather days, with rainfall being above average in October 2022, January and April 2023, while rainfall in March 2023 dropped to one third the historical average (22.4 mm compared to historical average 66.2 mm). Between May 2023 and July 2023 the site received 44.2 mm of rainfall, against a historic average of 228.0 mm for the period. This is seen through the 6-month SPI, which remained below 1.0 from March 2023 until the end of the monitoring period.

The rainfall activity during the sampling events over the monitoring period for BoM monitoring station (Station ID 068263) and the occurrence of wet weather events (days with rainfall > 15 mm) are summarised in **Table 6**. The SAQP requires surface water and groundwater sampling to be undertaken a minimum of once during the February to March period, when rainfall is slightly higher for the site. As shown in **Table 6** this was achieved via the March 2023 monitoring event, which coincided with 16.0 mm of rainfall.

Table 6 Rainfall during sampling events

Sampling Event and Date	Recorded rainfall (mm) (BoM, 2023)	Wet weather events (days with rainfall >15 mm)
December 2022 Quarterly Sampling Event (5 December 2022)	0.0 mm (5 December 2022) 22.4 mm (December 2022, total)	None
March 2023 Biannual Sampling Event (13 to 15 March 2023)	16.0 mm (13 to 15 March 2023) 46.6 mm (March 2023, total)	None
June 2023 Quarterly Sampling Event (13 June 2023)	1.4 mm (13 June 2023) 15.6 mm (June 2023, total)	None
September 2023 Biannual Sampling Event (11 to 13 September 2023)	0.0 mm (11 to 13 September 2023) 36.8 mm (September 2023, total)	None

Changes in rainfall can lead to differences in concentrations of PFAS in surface water. Variability of PFAS in groundwater can also occur when groundwater levels change due to rainfall. These factors have been considered in the discussion and interpretation provided in **Section 8**.

7.0 Monitoring Data Summary

As part of the OMP, the following four scheduled monitoring events were completed by AECOM over the monitoring period:

- 5 December 2022 (December 2022, AECOM, 2023a)
- 13 to 15 March 2023 (March 2023, AECOM, 2023b)
- 13 June 2023 (June 2023, AECOM, 2023c)
- 11 to 13 September 2023 (September 2023, AECOM 2024).

The groundwater and surface water sample locations are shown on **Figure F2** in **Appendix A**. Results are summarised in following sections and on **Figure F3** to **Figure F10** in **Appendix A**. Groundwater elevations are shown on **Figure F19** to **Figure F22** in **Appendix A**.

The monitoring and analytical results are provided in **Tables T1** to **T5** in **Appendix B**.

In addition to the OMP data, AECOM also considered the historical data for the Site, Management Area and surrounds that are available in the Defence database.

7.1 Groundwater Results

7.1.1 Groundwater Field Observations

Groundwater field observations from the monitoring period are provided in **Table T1** in **Appendix B** and are summarised below.

During the monitoring period, no notable estate works, training activities or construction works were observed in the vicinity of the sampling locations with the exception of a demountable structure has covered monitoring well MW115, within the LFS. The demountable is understood to be a temporary structure housing the Busby Fire Station for a period of 12 to 18 months (from December 2022), impeding access to MW115 during this period.

7.1.1.1 December 2022

- Monitoring wells were observed to be in good condition.
- All monitoring wells were observed to have sufficient water volume with the exception of MW134 which had insufficient water for measurement of water quality parameters and was only sampled for PFAS analysis.
- No visible signs of contamination in groundwater were observed at the locations sampled (i.e., no sheen, staining or foaming present). No odours were noted.

7.1.1.2 March 2023

- Monitoring wells were observed to be in good condition with the exception of MW005 which was identified to have damaged casing. No monument was present around the well casing and no j-cap was present on the well. It is also noted that monitoring wells MW002 and MW301 have no monument to protect the well casing.
- All monitoring wells were observed to have sufficient water volume with the exception of MW134 which had insufficient water and required a disposable bailer to sample. MW005 also required a disposable bailer for sampling due to the damage of the well casing.
- No visible signs of contamination in groundwater were observed at the locations sampled (i.e., no sheen, staining or foaming present). No odours were noted.

7.1.1.3 June 2023

- Monitoring wells were observed to be in good condition with the exception of MW112P which was missing bolts from the gatic cover.
- All monitoring wells were observed to have sufficient water volume with the exception of MW134 which had insufficient water to be sampled.

- No visible signs of contamination in groundwater were observed at the locations sampled (i.e., no sheen, staining or foaming present). No odours were noted.

7.1.1.4 September 2023

- Several activities impacted the sampling program including road closures on Heathcote Road likely due to a road accident and the large smoke plumes generated by the hazard reduction burns, and the STP area undergoing extensive civil works.
- Monitoring wells were observed to be in good condition. It is noted that monitoring wells MW002, MW005 and MW301 have no monument to protect the well casing. Given these wells are located in the STP area where civil works are being conducted, there is potential that the wells may be damaged or destroyed.
- All monitoring wells were observed to have sufficient water volume with the exception of MW134 which was dry.
- No visible signs of contamination in groundwater were observed at the locations sampled (i.e., no sheen, staining or foaming present). No odours were noted.

7.1.2 Groundwater Elevations

The standing water level (SWL) was measured in all monitoring wells, prior to sampling, to evaluate the groundwater elevations (GWE). The SWLs and GWEs from the four events during the monitoring period are presented in **Table T1** in **Appendix B** and summarised by source area and areas of interest in **Table 7** for each aquifer. Monitoring wells that are gauged and sampled as part of the OMP are screened in the following aquifers:

- Perched water / shallow alluvial aquifer (wells in the STP Area: MW002, MW005 and MW301; and some wells in the LFS area: MW112P, MW119P, MW133, MW134 and MW136)
- Deep alluvial aquifer (some wells in the LFS area: MW112, MW113, MW115, MW119, MW129, MW130, MW131)
- Bedrock aquifer (wells in Cantonment and Driver Training Area: MW120, MW121, MW122, MW123, MW124, MW323, MW349; and wells in the Former Transport 85 Area: MW117 and MW330).

Table 7 Summary of groundwater elevations

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
Cantonment and Driver Training Area – Bedrock Aquifer					
March 2023	7	2.491 (MW123)	8.196 (MW323)	2.686 (MW124)	28.184 (MW323)
September 2023	7	1.921 (MW123)	8.427 (MW323)	2.449 (MW124)	27.953 (MW323)
Former 85 Transport Area – Bedrock Aquifer					
March 2023	2	5.218 (MW330)	13.509 (MW117)	4.621 (MW117)	24.312 (MW330)
September 2023	2	5.545 (MW330)	13.325 (MW117)	4.805 (MW117)	23.985 (MW330)
Former STP Area – Shallow Alluvial Aquifer					
March 2023	3	1.608 (MW301)	2.067 (MW005)	1.089 (MW005)	1.775 (MW301)
September 2023	3	1.793 (MW301)	2.446 (MW002)	0.947 (MW005)	1.590 (MW301)
Liverpool Fire Station and surrounds – Deep Alluvial Aquifer					
December 2022	6	0.965 (MW129)	4.201 (MW113)	8.561 (MW129)	9.395 (MW112)
March 2023	6	1.101 (MW129)	4.499 (MW113)	8.425 (MW129)	9.237 (MW112)

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
June 2023	6	1.330 (MW129)	4.704 (MW113)	8.196 (MW129)	8.990 (MW112)
September 2023	6	1.596 (MW129)	5.072 (MW113)	7.896 (MW131)	8.775 (MW112)
Liverpool Fire Station and surrounds – Perched Water					
December 2022	5	1.680 (MW112P)	3.861 (MW134)	8.939 (MW119P)	11.750 (MW112P)
March 2023	5	1.681 (MW112P)	3.984 (MW134)	8.559 (MW119P)	11.749 (MW112P)
June 2023	5	2.154 (MW112P)	4.655 (MW134)	8.365 (MW119P)	11.276 (MW112P)
September 2023	4*	2.226 (MW112P)	3.853 (MW133)	8.012 (MW119P)	11.204 (MW112P)

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

Min = Minimum, Max = Maximum

*No SWL data is available for MW134 during the September 2023 event as the well was dry.

Noting no SWL data is available for MW115 during all sampling events from December 2022 to September 2023 as the well was not accessible.

Groundwater depths for the monitoring period were generally consistent with the previous 12-month monitoring period with elevations within 1 metre of the previous monitoring period (refer to **Section 8.1**).

7.1.3 Groundwater Flow Direction

Based on the SWL and survey data, the interpreted potentiometric contours for the December 2022 to September 2023 monitoring event are presented on **Figure F19**, **Figure F20** series, **Figure F21** and **Figure F22** series in **Appendix A**. These figures provide groundwater elevation contours and inferred groundwater flow direction for the bedrock aquifer and the deep alluvial aquifer, and inferred groundwater flow direction for the shallow alluvial aquifer. No elevation contours are presented for the perched water around the LFS due to the discontinuous nature of the perched water in that area. The contours are generally similar to the DSI (CH2M Hill, 2018), with inferred groundwater flow direction:

- to the northwest and north in the Former 85 Transport Area and generally corresponding to the topography
- to the northeast in the Cantonment and Driver Training Area and the LFS.

Note that the perched groundwater wells were omitted from the contours.

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 the four sampling events during the monitoring period are presented in **Table T2** in **Appendix B** and summarised below in **Table 8** for each source area and area of interest.

The readings presented in **Table 8** indicate:

- Poorly to moderately oxygenated conditions
- Fresh to brackish groundwater conditions
- Acidic to neutral conditions
- Mildly reducing to oxidising conditions.

Table 8 Summary of groundwater quality parameters

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Reduction-Oxidation Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Cantonment and Driver Training Area										
March 2023	0.25 (MW121)	1.39 (MW122)	19.1 (MW121)	24.4 (MW124)	528.0 (MW122)	11,200 (MW323)	5.31 (MW124)	6.64 (MW123)	180.4 (MW323)	407.8 (MW122)
September 2023	1.08 (MW123)	4.63 (MW122)	15.0 (MW123)	18.9 (MW122)	502.0 (MW122)	13,211 (MW323)	4.93 (MW124)	6.65 (MW120)	187.2 (MW323)	435.5 (MW122)
Former 85 Transport Area										
March 2023	0.23 (MW330)	1.23 (MW117)	19.1 (MW117)	22.1 (MW330)	798.0 (MW117)	5,810 (MW330)	3.98 (MW330)	5.37 (MW117)	244.6 (MW117)	503.8 (MW330)
September 2023	1.56 (MW117)	1.66 (MW330)	16.2 (MW117)	21.5 (MW330)	863.0 (MW117)	2,574 (MW330)	4.11 (MW330)	5.25 (MW117)	400.8 (MW117)	555.6 (MW330)
Former STP Area										
March 2023	0.23 (MW002)	1.69 (MW301)	19.4 (MW005)	22.3 (MW301)	251.2 (MW002)	3,006 (MW005)	6.07 (MW002)	6.48 (MW005)	141.8 (MW002)	235.0 (MW301)
September 2023	0.67 (MW002)	1.62 (MW301)	14.1 (MW301)	17.3 (MW002)	364.7 (MW002)	3,572 (MW005)	6.35 (MW005)	6.67 (MW301)	78.0 (MW002)	233.0 (MW301)
Liverpool Fire Station and surrounds – Deep Alluvial Aquifer										
December 2022	0.00 (MW113)	3.64 (MW131)	20.7 (MW112)	23.8 (MW130)	172.1 (MW113)	3,518 (MW129)	4.55 (MW130)	6.94 (MW119)	251.3 (MW129)	393.3 (MW131)
March 2023	0.30 (MW129)	2.21 (MW119)	20.3 (multiple)	21.9 (MW129)	245.4 (MW113)	1,925 (MW112)	5.29 (MW113)	7.00 (MW119)	138.4 (MW129)	375.8 (MW130)
June 2023	1.23 (MW113)	4.26 (MW129)	18.7 (MW129)	20.6 (MW131)	270.6 (MW113)	1,675 (MW112)	4.68 (MW130)	7.18 (MW119)	187.6 (MW113)	418.7 (MW130)
September 2023	0.31 (MW130)	6.14 (MW112)	17.9 (MW129)	20.0 (MW130)	302.4 (MW113)	1,575 (MW129)	4.15 (MW130)	7.16 (MW119)	168.3 (MW119)	472.7 (MW130)

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Reduction-Oxidation Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Liverpool Fire Station and surrounds – Perched Water										
December 2022	1.01 (MW136)	3.58 (MW119P)	21.9 (MW119P)	25.4 (MW136)	221.5 (MW112P)	2,332 (MW136)	4.79 (MW119P)	6.35 (MW136)	45.6 (MW136)	408.3 (MW133)
March 2023	1.22 (MW112P)	3.14 (MW134)	21.6 (multiple)	23.7 (MW133)	353.9 (MW112P)	1,409 (MW136)	5.09 (MW112P)	6.15 (MW134)	146.8 (MW136)	423.9 (MW119P)
June 2023	1.58 (MW112P)	3.50 (MW119P)	18.5 (MW112P)	20.8 (MW133)	336.7 (MW112P)	1,402 (MW136)	4.75 (MW119P)	6.47 (MW136)	184.3 (MW136)	381.2 (MW133)
September 2023	1.81 (MW136)	4.75 (MW133)	16.8 (MW112P)	18.6 (MW136)	366.0 (MW112P)	1,471 (MW119P)	4.54 (MW119P)	6.49 (MW133)	187.6 (MW136)	483.9 (MW133)

7.1.5 Groundwater Analytical Results

Groundwater analytical results from the monitoring period as well as relevant historical groundwater analytical results are presented in **Table T4** in **Appendix B**. Groundwater results from the monitoring period are presented spatially on **Figure F3** to **Figure F10** in **Appendix A**.

The monitoring activities are summarised in the OMP Sampling Event Factual Reports provided in **Appendix F**. The interpretive assessment of the groundwater analytical results is discussed in **Section 8.3** and **Section 8.4**.

Additionally, historical groundwater concentrations of PFOS+PFHxS and PFOA have been displayed graphically on temporal trend graphs, by PFAS source area and areas of interest, in **Appendix C** for the areas and locations in **Table 9**, below.

Table 9 Temporal trend graphs of groundwater locations

Graph ID	Source Areas and Areas of Interest	Groundwater locations
G1, G2	Cantonment and Driver Training Area	MW120, MW121, MW122, MW123, MW124, MW323, MW349
G3, G4	Former 85 Transport Area	MW117, MW330
G5, G6	Former STP Area	MW002, MW005, MW301
G7, G8	Liverpool Fire Station - Perched Water	MW112P, MW119P, MW133, MW134, MW136
G9, G10	Liverpool Fire Station – Deep Alluvial Aquifer	MW112, MW113, MW115, MW119, MW129, MW130, MW131

Note: Graphs present < LOR concentrations as half the LOR.

A summary of groundwater results from the monitoring period is provided in **Table 10** (bedrock and deep alluvial aquifers) and **Table 11** (perched water and shallow alluvial aquifer) for locations within each source area and area of interest.

Deviations from the historical dataset for groundwater are summarised in **Table 12** to **Table 16**.

Table 10 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in groundwater: bedrock and deep alluvial aquifers

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[2]	No. of Samples[1] with Exceedances of Ecological Criteria
Cantonment and Driver Training Area						
March 2023	7 Primary	PFOA	<LOR (multiple) to 0.01 µg/L (MW349)	1	0	0
		PFOS	<LOR (multiple) to 0.05 µg/L (MW349)	1	NA	0
		PFOS+PFHxS	<LOR (multiple) to 0.37 µg/L (MW349)	1	1	NA
September 2023	7 Primary	PFOA	<LOR (multiple) to 0.01 µg/L (MW349)	1	0	0
		PFOS	<LOR (multiple) to 0.07 µg/L (MW349)	1	NA	0
		PFOS+PFHxS	<LOR (multiple) to 0.37 µg/L (MW349)	2	1	NA
Former 85 Transport Area						
March 2023	2 Primary	PFOA	<LOR (MW117) to 8.38 µg/L (MW330)	1	1	0
		PFOS	0.46 µg/L(MW117) to 23.4 µg/L (MW330)	2	NA	2
		PFOS+PFHxS	0.52 µg/L(MW117) to 129 µg/L (MW330)	2	2	NA
September 2023	2 Primary, 4 QC	PFOA	<LOR (multiple) to 5.1 µg/L (MW330)	3	3	0
		PFOS	0.09 µg/L(MW117) to 17.6 µg/L (MW330)	6	NA	5
		PFOS+PFHxS	0.09 µg/L(MW117) to 77 µg/L (MW330)	6	6	NA
Liverpool Fire Station and surrounds – Deep Alluvial Aquifer						
December 2022	6 Primary, 2 QC	PFOA	<LOR (multiple) to 19.1 µg/L (MW113)	4	3	0
		PFOS	0.05 µg/L(MW129) to 407 µg/L (MW113)	8	NA	5
		PFOS+PFHxS	0.06 µg/L(MW129) to 641 µg/L (MW113)	8	7	NA
March 2023	6 Primary, 2 QC	PFOA	<LOR (multiple) to 24 µg/L (MW113)	5	3	0
		PFOS	0.05 µg/L(MW130) to 403 µg/L (MW113)	8	NA	4
		PFOS+PFHxS	0.08 µg/L(MW129) to 734 µg/L (MW113)	8	8	NA
June 2023	6 Primary, 4 QC	PFOA	<LOR (multiple) to 26.3 µg/L (MW113)	5	5	0
		PFOS	<LOR (MW130) to 376 µg/L (MW113)	9	NA	6
		PFOS+PFHxS	0.03 µg/L(MW130) to 760 µg/L (MW113)	10	7	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[2]	No. of Samples[1] with Exceedances of Ecological Criteria
September 2023	6 Primary, 2 QC	PFOA	<LOR (multiple) to 22.3 µg/L (MW113)	3	3	0
		PFOS	<LOR (multiple) to 329 µg/L (MW113)	6	NA	3
		PFOS+PFHxS	<LOR (multiple) to 645 µg/L (MW113)	6	5	NA

Notes:

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

[2] = Drinking water criteria

multiple = the value applies to multiple locations

NA = Not applicable – where there are no applicable Human Health screening criteria for PFOS, and no applicable Ecological screening criteria for the Sum of PFOS and PFHxS.

Table 11 Summary of PFOA, PFOS and PFOS+PFHxS Concentrations in Groundwater: shallow alluvial aquifer and perched water

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[2]	No. of Samples[1] with Exceedances of Ecological Criteria
Former STP Area – Shallow Alluvial Aquifer						
March 2023	3 Primary	PFOA	<LOR (MW301) to 0.09 µg/L (MW002)	2	0	0
		PFOS	0.02 µg/L(MW301) to 0.09 µg/L (MW002)	3	NA	0
		PFOS+PFHxS	0.07 µg/L(MW301) to 0.11 µg/L (MW002)	3	2	NA
September 2023	3 Primary	PFOA	<LOR (MW301) to 0.12 µg/L (MW002)	2	0	0
		PFOS	0.05 µg/L(MW301) to 0.08 µg/L (MW002)	3	NA	0
		PFOS+PFHxS	0.09 µg/L(MW301) to 0.11 µg/L (MW005)	3	3	NA
Liverpool Fire Station and surrounds - Perched Water						
December 2022	5 Primary	PFOA	<LOR (MW136) to 11.6 µg/L (MW119P)	4	2	0
		PFOS	0.11 µg/L(MW136) to 1,030 µg/L (MW133)	5	NA	4
		PFOS+PFHxS	0.31 µg/L(MW136) to 1,060 µg/L (MW133)	5	5	NA
March 2023	5 Primary, 2 QC	PFOA	<LOR (MW136) to 6.16 µg/L (MW119P)	6	2	0
		PFOS	0.09 µg/L(MW136) to 666 µg/L (MW133)	7	NA	6
		PFOS+PFHxS	0.25 µg/L(MW136) to 700 µg/L (MW133)	7	7	NA
June 2023	4 Primary	PFOA	0.01 µg/L(MW136) to 4.37 µg/L (MW119P)	4	2	0
		PFOS	0.23 µg/L(MW136) to 536 µg/L (MW133)	4	NA	4
		PFOS+PFHxS	0.38 µg/L(MW136) to 568 µg/L (MW133)	4	4	NA
September 2023	4 Primary	PFOA	<LOR (MW136) to 4.72 µg/L (MW119P)	3	2	0
		PFOS	0.06 µg/L(MW136) to 587 µg/L (MW133)	4	NA	3
		PFOS+PFHxS	0.11 µg/L(MW136) to 616 µg/L (MW133)	4	4	NA

Notes:

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

[2] = Drinking water criteria

multiple = the result was obtained at multiple locations

NA = Not applicable – where there are no applicable Human Health screening criteria for PFOS, and no applicable Ecological screening criteria for the Sum of PFOS and PFHxS.

During the monitoring period, the following first-time detections of PFOS, PFOS+PFHxS and/or PFOA were reported as presented in **Table 12**.

Table 12 Groundwater Results - First-time Detections of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
Mar 2023	LFS and surrounds – Deep Alluvial Aquifer	MW130	PFOA (0.01 µg/L)
		MW131	PFOA (0.01 µg/L)

The new exceedances of drinking water guidelines reported during the monitoring period are presented in **Table 13.**

Table 13 Groundwater Results - New Exceedances (Drinking Water) of PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
Mar 2023	LFS and surrounds – Deep Alluvial Aquifer	MW129	PFOS+PFHxS (0.08 µg/L)

The new exceedances of ecological (freshwater 95%) guidelines reported during the monitoring period are presented in **Table 14**.

Table 14 Groundwater Results – New Exceedances (Freshwater 95%) of PFOS and/or PFOA

Sampling Event	Area	Location	Analyte/s & Reported Concentrations
Dec 2022	LFS and surrounds – Deep Alluvial Aquifer	MW130	PFOS (0.16 µg/L)
Mar 2023	LFS and surrounds – Deep Alluvial Aquifer	MW131	PFOS (0.19 µg/L)
Jun 2023	LFS and surrounds – Perched Water	MW136	PFOS (0.23 µg/L)

The new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 15**.

Table 15 Groundwater Results – New Maximum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte(s) / Previous Maximum Concentrations	Analyte(s) & New Maximum Concentrations
Dec 2022	LFS and surrounds – Deep Alluvial Aquifer	MW129	PFOS (0.04 µg/L)	PFOS (0.05 µg/L)
		MW130	PFOS (0.11 µg/L)	PFOS (0.16 µg/L)
		MW130	PFOS+PFHxS (0.18 µg/L)	PFOS+PFHxS (0.24 µg/L)
		MW131	PFOS (0.09 µg/L)	PFOS (0.12 µg/L)
		MW131	PFOS+PFHxS (0.11 µg/L)	PFOS+PFHxS (0.15 µg/L)
	LFS and surrounds – Perched Water	MW119P	PFOS (200 µg/L)	PFOS (206 µg/L)
		MW133	PFOS (765 µg/L)	PFOS (1,030 µg/L)
		MW133	PFOS+PFHxS (808 µg/L)	PFOS+PFHxS (1,060 µg/L)
Mar 2023	Former 85 Transport Area	MW330	PFOA (3.9 µg/L)	PFOA (8.38 µg/L)
		MW330	PFOS (10.3 µg/L)	PFOS (23.4 µg/L)
		MW330	PFOS+PFHxS (61.7 µg/L)	PFOS+PFHxS (129 µg/L)
	LFS and surrounds – Deep Alluvial Aquifer	MW113	PFOA (17.8 µg/L)	PFOA (24 µg/L)
		MW119	PFOA (0.63 µg/L)	PFOA (0.86 µg/L)
		MW119	PFOS (32.8 µg/L)	PFOS (33.8 µg/L)

Sampling Event	Area	Location	Analyte(s) / Previous Maximum Concentrations	Analyte(s) & New Maximum Concentrations
		MW119	PFOS+PFHxS (37.4 µg/L)	PFOS+PFHxS (47.5 µg/L)
		MW129	PFOS (0.05 µg/L)	PFOS (0.06 µg/L)
		MW129	PFOS+PFHxS (0.06 µg/L)	PFOS+PFHxS (0.08 µg/L)
		MW131	PFOS (0.12 µg/L)	PFOS (0.19 µg/L)
		MW131	PFOS+PFHxS (0.15 µg/L)	PFOS+PFHxS (0.23 µg/L)
	LFS and surrounds – Perched Water	MW119P	PFOS (206 µg/L)	PFOS (230 µg/L)
Jun 2023	LFS and surrounds – Deep Alluvial Aquifer	MW113	PFOA (24 µg/L)	PFOA (26.3 µg/L)
		MW131	PFOS (0.19 µg/L)	PFOS (0.4 µg/L)
		MW131	PFOS+PFHxS (0.23 µg/L)	PFOS+PFHxS (0.44 µg/L)
	LFS and surrounds – Perched Water	MW136	PFOS (0.11 µg/L)	PFOS (0.23 µg/L)

The new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 16**.

Table 16 Groundwater Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte(s) / Previous Minimum Concentrations	Analyte(s) & New Minimum Concentrations
Dec 2022	LFS and surrounds - Perched Water	MW134	PFOS (0.35 µg/L)	PFOS (0.29 µg/L)
Mar 2023	Former STP Area	MW301	PFOS (0.03 µg/L)	PFOS (0.02 µg/L)
		MW301	PFOS+PFHxS (0.1 µg/L)	PFOS+PFHxS (0.07 µg/L)

7.2 Surface Water Results

7.2.1 Surface Water Field Observations

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

During the monitoring period, generally no notable estate works, training activities or construction works were observed in the vicinity of the sampling locations, with the exception of September 2023 event, which is detailed below.

December 2022

- All sampling locations (SW001, SW059 and SW111) were observed with a biosheen.
- Flow was observed at location SW059, however locations SW001 and SW111 were noted to be stagnant/no flow observed.

March 2023

- No visible signs of contamination were observed at the locations sampled, with the exception of SW059 and SW111 which had a biosheen.
- No odours were noted, with the exception of SW017, SW030, SW063 and SW105 which had organic odours.

- Flow was observed in the majority of locations sampled with the exception of SW009, SW030, SW059, SW103, SW104, SW105 and SW111 which were noted to be stagnant/no flow observed.

As presented in **Section 6.3**, rainfall was recorded during this sampling event, which could contribute to variability in observations. The potential impacts on concentration trends are presented in **Section 8.6** below.

June 2023

- Locations SW001 and SW111 were dry and no flow was observed at SW059.
- No visible signs of contamination were observed at the locations sampled, with the exception of SW001 which had a biosheen and suspended organic materials noted.
- No odours were noted.

September 2023

- Several activities impacted the sampling program including road closures on Heathcote Road likely due to a road accident and the large smoke plumes generated by the hazard reduction burns, and the STP area undergoing extensive civil works. Hazard reduction burning in selected areas of the Site, mostly south of the Luscombe Airfield, prevented access to sampling locations (namely SW030 and SW038) close to the Luscombe Airfield. Additionally, hazard reduction burning in the wetland reserve area, east of the STP, prevented access to SW014. Furthermore, bushfires prevented access to SW014, SW030 and SW038.
- Location SW111 was dry.
- Flow was observed at locations SW009, SW011, SW012, SW017, SW062 and SW063 only. The remaining locations were either inaccessible, dry or stagnant/no flow observed.
- No visible signs of contamination were observed at the locations sampled, with the exception of SW001 which had a biosheen and suspended organic materials noted.
- No odours were noted.

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 the four sampling events during the monitoring period are presented in **Table T4** in **Appendix B** and summarised below in **Table 17** for locations within each sub-catchment.

The readings presented in **Table 17** indicate:

- Poorly to moderately well oxygenated conditions
- Generally fresh to marginally brackish water conditions
- Moderately acidic to neutral conditions
- Mostly reducing conditions.

Table 17 Summary of surface water quality parameters

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Reduction-Oxidation Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Anzac Creek Sub-Catchment										
December 2022	0.20 (SW001)	6.40 (SW111)	24.9 (SW059)	26.0 (SW111)	312.6 (SW111)	456.8 (SW001)	6.98 (SW059)	7.17 (SW001)	30.8 (SW001)	311.2 (SW111)
March 2023	2.30 (SW001)	3.26 (SW111)	20.3 (SW001)	21.2 (SW059)	176.0 (SW001)	387.9 (SW059)	6.31 (SW001)	6.67 (SW059)	236.8 (SW059)	373.2 (SW001)
June 2023	5.62 (SW059)		12.0 (SW059)		259.7 (SW059)		7.02 (SW059)		273.6 (SW059)	
September 2023	2.46 (SW001)	5.04 (SW059)	12.1 (SW001)	13.6 (SW059)	215.3 (SW001)	234.5 (SW059)	6.55 (SW001)	6.94 (SW059)	229.1 (SW059)	292.3 (SW001)
Georges River Sub-Catchment										
March 2023	0.23 (SW104)	5.74 (SW025)	21.1 (SW103)	24.5 (SW062)	259.1 (SW025)	669.0 (SW103)	6.88 (SW063)	7.06 (SW025)	100.9 (SW105)	308.7 (SW062)
September 2023	0.19 (SW103)	7.41 (SW062)	15.1 (SW105)	17.1 (multiple)	119.6 (SW105)	489.7 (multiple)	6.75 (SW103)	7.76 (multiple)	211.9 (SW103)	322.1 (SW063)
Harris Creek Sub-Catchment										
March 2023	3.37 (SW015)	6.09 (SW017)	21.9 (SW017)	22.0 (SW015)	349.1 (SW015)	763.0 (SW017)	6.46 (SW015)	6.70 (SW017)	247.0 (SW015)	335.5 (SW017)
September 2023	4.15 (SW017)	7.73 (SW015)	14.6 (SW015)	16.3 (SW017)	269.2 (SW015)	2,941 (SW017)	6.52 (SW017)	6.85 (SW015)	263.2 (SW015)	275.6 (SW017)
Williams Creek Sub-Catchment										
March 2023	2.93 (SW009)	5.58 (SW011)	21.7 (SW011)	26.3 (SW038)	256.6 (SW030)	6,936 (SW012)	5.66 (SW030)	7.14 (SW012)	198.6 (SW011)	390.5 (SW030)
September 2023	4.80 (SW012)	7.73 (SW009)	14.6 (SW009)	18.9 (SW011)	269.2 (SW009)	4,327 (SW011)	6.85 (SW009)	7.09 (SW012)	222.1 (SW011)	285.7 (SW012)
Williams Creek and Harris Creek Sub-Catchment										
March 2023	2.31 (SW014)		23.0 (SW014)		3,757 (SW014)		7.00 (SW014)		237.7 (SW014)	
September 2023	n/a – water quality parameters not collected									

7.2.3 Surface Water Analytical Results

Surface water analytical results from the monitoring period as well as relevant historical surface water analytical results are presented in **Table T5** in **Appendix B**. Surface water results from the monitoring period are presented spatially on **Figure F11** to **Figure F18** in **Appendix A**.

The monitoring activities are summarised in the OMP Sampling Event Factual Reports provided in **Appendix E**. The interpretive assessment of the surface water analytical results is discussed in **Section 8.5** and **Section 8.6**, below.

Additionally, historical surface water concentrations of PFOS+PFHxS and PFOA are displayed graphically on temporal trend graphs, by sub-catchment set out in **Appendix C** for the locations in **Table 18**.

Table 18 Temporal trend graphs of surface water locations

Graph ID	Sub-catchment / Area of interest	Surface water locations
G11, G12	Anzac Creek Sub-Catchment	SW001, SW059, SW111
G13, G14	Georges River Sub-Catchment	SW025, SW062, SW063, SW103, SW104, SW105
G15, G16	Harris Creek Sub-Catchment	SW015, SW017
G17, G18	Williams Creek Sub-Catchment	SW009, SW011, SW012, SW030, SW038
G19, G20	Williams Creek and Harris Creek Sub-Catchment	SW014

A summary of surface water results from the monitoring period is provided in **Table 19** for locations within each sub-catchment.

Deviations from the historical dataset for surface water are summarised in **Table 20**.

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

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[2]	No. of Samples[1] with Exceedances of Ecological Criteria
Anzac Creek Sub-Catchment						
December 2022	3 Primary, 2 QC	PFOA	<LOR (multiple) to 0.04 µg/L (SW001)	1	0	0
		PFOS	0.09 µg/L(SW059) to 1.04 µg/L (SW001)	5	NA	2
		PFOS+PFHxS	0.14 µg/L(SW059) to 1.39 µg/L (SW001)	5	0	NA
March 2023	3 Primary, 2 QC	PFOA	<LOR (SW059) to 0.02 µg/L (SW059)	4	0	0
		PFOS	0.06 µg/L(SW059) to 0.26 µg/L (SW001)	5	NA	1
		PFOS+PFHxS	0.1 µg/L(SW059) to 0.38 µg/L (SW001)	5	0	NA
June 2023	1 Primary	PFOA	0.01 µg/L(SW059)	1	0	0
		PFOS	0.08 µg/L(SW059)	1	NA	0
		PFOS+PFHxS	0.15 µg/L(SW059)	1	0	NA
September 2023	2 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	0.03 µg/L(multiple) to 0.11 µg/L (SW001)	4	NA	0
		PFOS+PFHxS	0.06 µg/L(multiple) to 0.13 µg/L (SW001)	4	0	NA
Georges River Sub-Catchment						
March 2023	6 Primary, 2 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple) to 0.1 µg/L (multiple)	3	NA	0
		PFOS+PFHxS	<LOR (multiple) to 0.16 µg/L (SW103)	3	0	NA
September 2023	6 Primary	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple) to 0.09 µg/L (SW105)	4	NA	0
		PFOS+PFHxS	<LOR (multiple) to 0.16 µg/L (SW103)	4	0	NA
Harris Creek Sub-Catchment						
March 2023	2 Primary	PFOA	<LOR (SW017) to 0.01 µg/L (SW015)	1	0	0
		PFOS	0.06 µg/L(SW017) to 0.07 µg/L (SW015)	2	NA	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[2]	No. of Samples[1] with Exceedances of Ecological Criteria
		PFOS+PFHxS	0.12 µg/L(SW017) to 0.15 µg/L (SW015)	2	0	NA
September 2023	2 Primary	PFOA	<LOR (multiple)	0	0	0
		PFOS	0.04 µg/L(SW017) to 0.05 µg/L (SW015)	2	NA	0
		PFOS+PFHxS	0.07 µg/L(SW017) to 0.08 µg/L (SW015)	2	0	NA
Williams Creek Sub-Catchment						
March 2023	5 Primary	PFOA	<LOR (multiple) to 0.02 µg/L (SW030)	3	0	0
		PFOS	0.03 µg/L(SW012) to 0.8 µg/L (SW030)	5	NA	3
		PFOS+PFHxS	0.05 µg/L(SW012) to 1.72 µg/L (SW030)	5	0	NA
September 2023	3 Primary	PFOA	<LOR (multiple) to 0.01 µg/L (SW009)	1	0	0
		PFOS	0.03 µg/L(multiple) to 0.16 µg/L (SW009)	3	NA	1
		PFOS+PFHxS	0.05 µg/L(SW012) to 0.29 µg/L (SW009)	3	0	NA
Williams Creek and Harris Creek Sub-Catchments						
March 2023	1 Primary	PFOA	<LOR (SW014)	0	0	0
		PFOS	0.02 µg/L(SW014)	1	NA	0
		PFOS+PFHxS	0.04 µg/L(SW014)	1	0	NA
September 2023	n/a	n/a – no sample collected				

Notes:

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

[2] = Recreational use criteria

multiple = the value applies to multiple locations

NA = Not applicable – where there are no applicable Human Health screening criteria for PFOS, and no applicable Ecological screening criteria for the Sum of PFOS and PFHxS.

During the monitoring period, there were no first-time detections, no new exceedances of human health recreational guidelines, no new exceedances of ecological (freshwater 95%) guidelines and no new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA.

The new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA reported during the monitoring period are presented in **Table 20**.

Table 20 Surface Water Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Analyte(s) / Previous Minimum Concentrations	Analyte(s) & New Minimum Concentrations
Sep 2023	Williams Creek Sub-Catchment	SW011	PFOS (0.04 µg/L)	PFOS (0.03 µg/L)
		SW011	PFOS+PFHxS (0.07 µg/L)	PFOS+PFHxS (0.06 µg/L)

8.0 Discussion / Interpretive Analysis

8.1 Groundwater Level and Flow

The SWLs were measured in the groundwater monitoring wells to evaluate the groundwater elevations (m AHD). Depth to groundwater measurements collected during the current monitoring period are presented in **Table T1** (in **Appendix B**) and the inferred potentiometric contours for the December 2022 to September 2023 sampling events are presented on **Figure F19** to **Figure F22** (**Appendix A**).

A summary of groundwater elevation changes over the monitoring period is provided by PFAS source area below:

- Cantonment and Driver Training Area: groundwater elevations decreased by an average of 0.59 m
- Former 85 Transport Area: groundwater elevations increased by an average of 0.60 m
- Former STP Area: groundwater elevations decreased by an average of 0.64 m
- LFS and surrounds: groundwater elevations remained relatively unchanged, decreasing by an average of 0.04 m in the perched water and increased by 0.07 m in the deep alluvial aquifer.

Whilst some groundwater elevations increased or remained constant, the lower groundwater elevations over the monitoring period in the majority of locations visited is likely to be attributed to the below average rainfall recorded which was consistent with the climatic shift from La Nina weather patterns to El Nino weather patterns which occurred during the monitoring period.

The inferred groundwater flow directions in sampling events over the monitoring period were similar to the previous monitoring events, with inferred groundwater flow direction:

- to the northwest and north in the Former 85 Transport Area and generally corresponding to the topography
- to the northeast in the Cantonment and Driver Training Area and the LFS.

8.2 Groundwater Physicochemical Properties

The water quality parameters reported during the monitoring period were within previous data ranges and representative of the aquifers.

8.3 Groundwater Results

8.3.1 Overview

The December 2022 to September 2023 groundwater results for PFOS+PFHxS and PFOA compared to assessment criteria are provided in **Figures F3** to **Figure F10** (in **Appendix A**) and presented in **Table T4** (in **Appendix B**). A summary of changes to the nature and extent of PFAS groundwater contamination is discussed below.

8.3.2 PFAS Extent in Groundwater

A summary of groundwater concentration changes by PFAS source area is provided below:

- **Cantonment and Driver Training Area**: Concentrations of PFOA and PFOS+PFHxS are typically the lowest within the Site with concentrations above the LOR only at MW349 (maximum PFOS+PFHxS concentration of 0.37 µg/L), which is located cross hydraulic gradient and to the east of the Cantonment Area. There is a transect of monitoring wells across the northern boundary of the cantonment (MW120 – MW124). PFAS concentrations in these wells were below LOR during the monitoring period with the exception of MW123 which had a reported PFOS+PFHxS concentration of 0.02 µg/L in September 2023.
- **Former 85 Transport Area**: The highest on-Site concentrations of PFOA and PFOS+PFHxS are located within the Former 85 Transport area (PFOS+PFHxS concentration of 129 µg/L at MW330, an increase from the previous maximum of 67 µg/L). Monitoring well MW117 is located down-gradient of the Former 85 Transport area, towards the Georges River. New maximum concentrations for PFOA, PFOS and PFOS+PFHxS were reported at MW330 in March 2023,

whilst concentrations at down hydraulic gradient location MW117 reduced from their maximum set in September 2022 (from 1.95 µg/L to 0.2 µg/L by September 2023). As noted in Section 8.6.2, PFAS concentrations in surface water samples from locations in the Georges River down-gradient of MW117 (SW062, SW025 and SW063) were below LOR with the exception of SW063 which had a PFOS + PFHxS concentration of 0.01 µg/L (equal to the LOR) in the September 2023 sampling round.

- **Former STP Area**: Concentrations of PFOA and PFOS+PFHxS have been historically detected at all three wells within the Former STP Area. For the monitoring period the results were within the historical range, or lower and a new minimum concentration of PFOS+PFHxS at MW301. A maximum PFOS+PFHxS concentration of 0.11 µg/L at MW002 and MW005 were reported during the current monitoring period. This is a reduction from the historic maximum PFOS+PFHxS concentration for the area of 0.82 µg/L at MW301 in February 2018.
- **Liverpool Fire Station –** The highest concentrations within the Management Area were reported at LFS and surrounds in the deep alluvial aquifer and perched water with maximum concentrations of PFOS+PFHxS reported at 760 µg/L (deep alluvial) and 1,060 µg/L (perched). The concentrations exceeding the assessment criteria extend down hydraulic gradient of the LFS to the north east and east towards Anzac Creek. The concentrations during the monitoring period remained within the overall historical range for the area, though the following new first-time detections, exceedances and maximum concentrations for individual locations were observed:
  - Perched Water:
    - new exceedances of PFOS in MW136
    - new maximum concentrations of PFOS+PFHxS in MW119P, MW133, MW136
    - new maximum concentrations of PFOS at MW133
  - Deep Alluvial Aquifer:
    - new first-time detections of PFOA in MW130 and MW131
    - new exceedances of PFOS+PFHxS in MW129, and PFOS in MW130 and MW131
    - new exceedances of PFOA and new maximum concentrations of PFOA in MW113, MW119.
    - new maximum concentrations of PFOS and PFOS+PFHxS in MW130, MW131
    - new maximum concentrations of PFOS in MW119, MW129, MW130, MW131, MW136.
- Based on the results, concentrations within the more impacted locations MW112, MW113, MW115, MW119P, and MW133 appear to be stable during the monitoring period, which had increased during the previous monitoring period (potentially due to the above average rainfall in that period), whilst increasing concentrations are observed within locations with lower concentrations of PFAS (such as MW129, MW130, and MW131) in the area, where concentrations have historically been within two orders of magnitude of the LOR.

Overall there appears to be no change in the extent of PFAS impacts in groundwater within the Management Area based on the current monitoring network. PFAS concentrations in the LFS and surrounds have increased in some wells, though these increases are within the range of concentrations already observed within this area. Historical groundwater analytical results are presented in **Appendix B Table T4**, and concentration trends are presented in **Appendix C Graphs G1** to **G10**.

8.4 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 9**, 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 locations which were sampled in the monitoring period and for locations which were consistently greater than the LOR. 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[2] was adopted for the Mann Kendall analysis.

A summary of PFOS+PFHxS and PFOA concentrations for the select locations (including historical ranges and concentrations from the OMP events during the monitoring period) and trend analysis results are presented in the following sections.

8.4.1 Cantonment and Driver Training Area

The Cantonment and Driver Training Area is located in the northern portion of the Site and is located between Harris Creek to the west and Williams Creek to the east. The concentrations of PFOS+PFHxS and PFOA in groundwater in the vicinity of the Cantonment and Driver Training Area were either less than the LOR or appear to be stable.

The temporal trend graphs show that the groundwater concentrations in this area are lower than the previous monitoring period, and therefore within historical concentration ranges at each of the monitoring locations. Refer to **Graph G1** and **Graph G2** and the relevant Mann Kendall analysis in **Appendix C**, and **Table 21** below.

Table 21 Summary of Trend Analysis: Cantonment and Driver Training Area

Location ID	Analyte	Historical Range	OMP Events (Current Period)	Mann Kendall Analysis	
		Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW120	PFOS+PFHxS	< LOR	< LOR	Not assessed*	
	PFOA	< LOR	< LOR	Not assessed*	
MW121	PFOS+PFHxS	< LOR	< LOR	Not assessed*	
	PFOA	< LOR	< LOR	Not assessed*	
MW122	PFOS+PFHxS	< LOR	< LOR	Not assessed*	
	PFOA	< LOR	< LOR	Not assessed*	
MW123	PFOS+PFHxS	< LOR – 0.02	< LOR	Not assessed*	
	PFOA	< LOR	< LOR	Not assessed*	
MW124	PFOS+PFHxS	< LOR – 0.02	< LOR – 0.02	*Stable*	*68.3 %*
	PFOA	< LOR	< LOR	Not assessed*	
MW323	PFOS+PFHxS	< LOR – 0.09	< LOR	Not assessed*	
	PFOA	< LOR	< LOR	Not assessed*	
MW349	PFOS+PFHxS	0.09 – 0.4	0.37	No trend	76.4 %
	PFOA	< LOR – 0.01	0.01	Stable	45.2 %

Note:

Only one result is reported in the Min-Max Range where the values are the same.

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 (less than four results over LOR) at this location to allow for statistical assessment.

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

8.4.2 Former 85 Transport Area

The Former 85 Transport Area has the highest PFAS concentrations in groundwater at the Site. This area is located in the western portion of the Site which is bound by the Georges River to the west.

Concentrations of PFOS+PFHxS and PFOA were observed to be increasing during the previous monitoring period, and this trend continued at MW330 for PFOA with an increasing trend, whilst PFOS+PFHxS showed no trend, however it is noted that the concentrations were higher in the current monitoring period. Refer to **Graph G3** and **Graph G4** and the relevant Mann Kendall analysis (in **Appendix C**), and **Table 22** below.

The increases in concentrations remain within the same order of magnitude as the historical data. The source of this increase at MW330 is not clear, however the concentrations were lower during the most recent monitoring event in September 2023.

Table 22 Summary of Trend Analysis: Former 85 Transport Area

Location ID	Analyte	Historical Range	OMP Events (Current Period)	Mann Kendall Analysis	
		Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW117	PFOS+PFHxS	0.01 – 1.95	0.20 – 0.52	No trend	88.1 %
	PFOA	< LOR – 0.04	< LOR	Not assessed*	
MW330	PFOS+PFHxS	37.1 – 67.0	77.0-129.0	No trend	76.5 %
	PFOA	0.98 – 3.9	5.10 – 8.38	Increasing	97.2 %

Note:

Only one result is reported in the Min-Max Range where the values are the same.

* Insufficient sample numbers or detections above the LOR at this location to allow for statistical assessment.

8.4.3 Former STP Area

The Former STP Area is located in the northern most part of the Site, where Harris Creek and Williams Creek merge before discharging into the Georges River.

Concentrations are observed to be stable or decreasing in the Former STP Area. Refer to temporal trend **Graph G5** and **Graph G6** in **Appendix C** and the relevant Mann Kendall analysis (in **Appendix C**), and **Table 23** below.

Table 23 Summary of Trend Analysis: Former STP Area

Location ID	Analyte	Historical Range	OMP Events (Current Period)	Mann Kendall Analysis	
		Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW002	PFOS+PFHxS	0.05 – 0.24	0.10 – 0.11	*Stable*	*50.0 %*
	PFOA	0.05 – 0.35	0.09 – 0.12	*Stable*	*86.2 %*
MW005	PFOS+PFHxS	0.07 - 0.22	0.10 – 0.11	Stable	*59.2 %*
	PFOA	0.01 - 0.03	0.02 – 0.03	No Trend	*59.2 %*
MW301	PFOS+PFHxS	0.12 – 0.82	0.07 – 0.09	*Decreasing*	*99.6 %*
	PFOA	< LOR – 0.02	< LOR	*Decreasing*	*97.2 %*

Note:

Only one result is reported in the Min-Max Range where the values are the same.

Italics: indicate low confidence in the Mann Kendall trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.

8.4.4 Liverpool Fire Station and surrounds - Perched Water

The LFS is located over 2 km north of the Site and is an off-Site PFAS source area. It is located within the Anzac Creek catchment which drains to the Georges River to the north.

The changes in PFOS+PFHxS and PFOA concentrations in the perched groundwater show an increasing trend at MW119P and a probably increasing trend in MW133. MW136 previously assessed as having an increasing trend, is now showing no trend as concentrations have reduced since the previous monitoring period. The increasing trend in MW119P is consistent with the previous 12-month monitoring period, whilst MW133 was previously assessed as no trend. PFOS+PFHxS and PFOA concentrations at all other locations remained stable or were potentially decreasing.

Refer to **Graph G7** and **Graph G8** and the relevant Mann Kendall analysis (in in **Appendix C)**, and **Table 24** below.

Table 24 Summary of Trend Analysis: Liverpool Fire Station and surrounds - Perched Water

Location ID	Analyte	Historical Range	OMP Events (Current Period)	Mann Kendall Analysis	
		Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW112P	PFOS+PFHxS	8.75 – 56.0	20.0 – 32.2	Probably Decreasing	94.4 %
	PFOA	*0.05 – 0.4*	*0.15 – 0.30*	*Probably Decreasing*	*91.3%*
MW119P	PFOS+PFHxS	12.2 – 457	205.0 – 400.0	Increasing	98.2 %
	PFOA	0.4 – 14.6	4.37 – 11.6	Increasing	95.5 %
MW133	PFOS+PFHxS	4.43 – 808.0	568.0 – 1060.0	Probably Increasing	91.0 %
	PFOA	0.03 – 4.8	2.69 – 4.12	Probably Increasing	91.0%
MW134	PFOS+PFHxS	0.89 – 1.6	0.95 – 1.16	Stable	76.5 %
	PFOA	*0.02 – 0.03*	*0.20*	*Stable*	*64.0 %*
MW136	PFOS+PFHxS	*0.032 – 0.7*	*0.11 – 0.38*	*No Trend*	*79.9 %*
	PFOA	*< LOR – 0.03*	*< LOR – 0.010*	*No Trend*	*77.7 %*

Note:

Only one result is reported in the Min-Max Range where the values are the same.

Italics: indicate low confidence in the Mann Kendall trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.

8.4.5 Liverpool Fire Station and surrounds – Deep Alluvial Aquifer

PFOS+PFHxS and PFOA concentrations in the alluvial screened wells also showed an increasing trend at MW119 and an increasing trend of PFOS+PFHxS at MW113. MW113 is located on the LFS property and MW119 is located approximately 500 m east of the LFS and adjacent to Anzac Creek. The increasing trend in these wells are consistent with the previous 12-month monitoring period. In addition to these locations, MW129, MW130, and MW131 also show an increasing trend for PFOS+PFHxS. PFOA at these locations remains at or near LOR. MW112 located south, up hydraulic gradient of the LFS showed a probably decreasing trend for both PFOA and PFOS+PFHxS. The remaining wells were either stable or there was no trend.

Refer to **Graph G9** and **Graph G10** and the relevant Mann Kendall analysis (in in **Appendix C)**, and **Table 25** below.

Table 25 Summary of Trend Analysis: Liverpool Fire Station and surrounds – Deep Alluvial Aquifer

Location ID	Analyte	Historical Range	OMP Events (Current Period)	Mann Kendall Analysis	
		Min – Max (µg/L)	Min – Max (µg/L)	Trend	Confidence Factor
MW112	PFOS+PFHxS	54.4 - 123	55.1 – 67.6	Decreasing	99.3 %
	PFOA	1.56 – 4.75	1.58 – 2.65	Decreasing	99.5 %
MW113	PFOS+PFHxS	120 – 1380	641.0 – 760.0	Increasing	99.8 %
	PFOA	3.7 – 17.8	19.1 – 26.3	Increasing	99.7 %
MW115	PFOS+PFHxS	273 – 687	No samples	Not assessed	
	PFOA	8.78 – 16.1	No samples	Not assessed	
MW119	PFOS+PFHxS	2.82 – 37.4	34.2 – 47.5	Increasing	99.9 %
	PFOA	0.08 – 0.63	0.47 – 0.86	*Increasing*	*99.9 %*
MW129	PFOS+PFHxS	< LOR – 0.06	0.04 – 0.08	*Increasing*	*99.8 %*
	PFOA	< LOR	< LOR	Not assessed*	
MW130	PFOS+PFHxS	< LOR – 0.18	0.03 – 0.24	*Prob. Increasing*	*91.3 %*
	PFOA	< LOR	< LOR – 0.01	Not assessed*	
MW131	PFOS+PFHxS	< LOR – 0.11	0.15 – 0.44	*Increasing*	*99.9 %*
	PFOA	< LOR	< LOR – 0.01	Not assessed*	

Note:
Only one result is reported in the Min-Max Range where the values are the same.
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 or detections above the LOR at this location to allow for statistical assessment.

8.5 Surface Water Results

The results for PFOS+PFHxS and PFOA for sampling events completed in December 2022 to September 2023, compared to screening criteria are provided in **Figure F11** to **Figure F18** (in **Appendix A**).

The PFAS concentrations in surface water are historically generally highest in the following locations:

- Anzac Creek Sub-Catchment:
  - Stormwater drain adjacent to the LFS. The PFOS+PFHxS concentrations ranging between 0.13 µg/L (equalled during this monitoring period) and 10.8 µg/L in SW001, since sampling in 2018
  - Down-stream of the LFS in Anzac Creek. The PFOS+PFHxS concentrations ranging between < LOR and 0.18 µg/L in SW059, since sampling in 2018, though it is noted that these concentrations are lower than at SW111, located in Anzac Creek, upstream of the LFS discharge point and downstream of the Moorebank Logistics Park discharge point (discussed as a source of PFAS in **Section 6.2.2**), where historical concentrations have ranged between 0.07 µg/L and 2.83 µg/L.
- Williams Creek Sub-Catchment:
  - Tributaries of Williams Creek downstream of the Luscombe Airfield. The PFOS+PFHxS concentrations ranging between 0.1 µg/L and 4.3 µg/L in SW038 and SW030, since sampling in 2018
  - Williams Creek downstream of the Cantonment and Driver Training Area and the STP. The maximum PFOS+PFHxS concentration for this area is 3.52 µg/L (SW011 in March 2022), though this result appears to be an outlier, as the concentration range for the remainder of the

dataset is between 0.04 µg/L and 0.48 µg/L in SW009, SW011 and SW012, since sampling in 2017, indicating no significant PFAS contribution from the STP area.

All other locations were less than the LOR and/or the assessment criteria, except for locations within the drains at the Former 85 Transport Area. The PFOS+PFHxS concentrations in this area ranged between 0.02 µg/L and 0.64 µg/L in SW103, SW104 and SW105, since sampling in 2018.

A summary of surface water concentrations changes by sub-catchment compared to the historical data are provided below:

- Anzac Creek Sub-Catchment: Concentrations of PFOA and PFOS+PFHxS were within the historical range
- Georges River Sub-Catchment: Concentrations of PFOA and PFOS+PFHxS were within the historical range
- Harris Creek Sub-Catchment: Concentrations of PFOA and PFOS+PFHxS were within the historical range
- Williams Creek Sub-Catchment: Concentrations of PFOA and PFOS+PFHxS fluctuated and were within or lower than the historical range. During the monitoring period there were new minimum concentrations of PFOS and PFOS+PFHxS at SW011
- Williams Creek and Harris Creek Sub-Catchment: Concentrations of PFOA remained below LOR during the monitoring period which are consistent with historical results. Although PFOS+PFHxS and PFOS concentrations fluctuated during the monitoring period, they remained within historical ranges.

It is noted that PFAS concentrations in surface water are dependent on the conditions at the time of sampling (such as flow rate). Temporal trend analysis is summarised in the section below, which provides overall trends within each sub-catchment.

8.6 Surface Water Temporal Trend Analysis

Surface water temporal trend graphs for PFOS+PFHxS and PFOA concentrations are provided on **Graph G11** to **Graph G20** (in **Appendix C**) and discussed in the following sub-sections.

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. It is also noted that as per **Section 6.3**, the Site experienced rainfall during the March 2023 monitoring event, however a review of the temporal trend graphs indicates no significant variability to the concentrations when compared to the historical observations.

Note that Mann Kendall analysis was not used to assess the trends in PFAS concentrations in surface water, in accordance with the *PFAS OMP Annual Interpretive Report Guidance* (Defence, 2022).

The temporal trends are discussed for each sub-catchment within the following sub-sections. Note that unlike groundwater, there was no apparent correlation between rainfall and PFAS concentrations at the surface water locations sampled from the sub-catchments.

8.6.1 Temporal Trend - Anzac Creek Sub-Catchment

PFOS+PFHxS and PFOA concentrations in the Anzac Creek Sub-Catchment locations that were assessed, have been historically observed to be highly variable. The concentrations reported during the current monitoring period were within historic ranges for the catchment although there were results above and below the ranges for individual locations.

Refer to **Graph G11** and **Graph G12** in **Appendix C.**

8.6.2 Temporal Trend - Georges River Sub-Catchment

PFOS+PFHxS and PFOA concentrations in the Georges River Sub-Catchment locations that were assessed, have been historically observed to be highly variable and fluctuated over the monitoring period. Note that the higher PFAS concentrations in the Georges River sub-catchment are located in the on-Site drains (in particular locations SW103, SW104 and SW105) within the Former 85 Transport

Area. This was consistent with the current monitoring period. Concentrations of PFOA for the monitoring period were < LOR for all locations.

Refer to **Graph G13** and **Graph G14** in **Appendix C**.

8.6.3 Temporal Trend – Harris Creek Sub-Catchment

PFOS+PFHxS concentrations in the Harris Creek Sub-Catchment locations that were assessed, have been historically observed to be below LOR for PFOA and around 0.1 µg/L for PFOS+PFHxS, consistent with the current monitoring period (noting that PFOA concentration was reported at the LOR in SW015 in June 2023). There is no observable overall decreasing or increasing trends.

Refer to **Graph G15** and **Graph G16** in **Appendix C.**

8.6.4 Temporal Trend – Williams Creek Sub-Catchment

PFOS+PFHxS and PFOA concentrations in the Williams Creek Sub-Catchment locations that were assessed, have been historically observed to be highly variable and fluctuated over the monitoring period. Results from the monitoring period are relatively consistent with the previous monitoring period.

Refer to **Graph G17** and **Graph G18** in **Appendix C.**

8.6.5 Temporal Trend – Williams Creek and Harris Creek Sub-Catchment

PFOS+PFHxS concentrations in the Williams Creek and Harris Creek Sub-Catchment location that was assessed (in SW014), have fluctuated in the past and this trend continued during this monitoring period, where the PFOS+PFHxS concentrations decreased. Note that the location was only sampled in June 2023 due to lack of access. PFOA concentrations have historically remained below the LOR.

Refer to **Graph G19** and **Graph G20** in **Appendix C.**

9.0 Conceptual Site Model

The CSM was developed and reported in the DSI (CH2M Hill, 2018) and summarised in the OMP (Defence, 2020a). The CSM summaries the linkages between sources, exposure pathways and receptors.

The OMP monitoring data generated during the current monitoring period (October 2022 to September 2023) has provided additional data to further understand the changing conditions of the PFAS concentrations in groundwater and surface water. Although, some localised changes were noted, in particular perched water and groundwater concentrations in the vicinity of the LFS, the PFAS transport mechanisms and the groundwater and surface water concentrations are inferred to remain similar to that reported in the DSI (CH2M Hill, 2018).

Similar to the previous 12-month monitoring period, the Mann Kendall analysis indicated a continued and expanded increasing trend in PFOS+PFHxS and PFOA in the deep alluvial aquifer and perched groundwater locations in the vicinity of the LFS. The magnitude of the concentrations did not continue to rise outside of the historic range for the area, though concentrations within historically near LOR locations did rise sufficient to trigger a statistical increasing trend. Outside of LFS, PFAS concentrations were stable or decreasing with the exception of MW330 at the Former 85 Transport Area, where the concentrations continued to increase, when compared to previous monitoring period.

The following new maximums or increasing trends in PFAS concentrations were noted during this monitoring period in groundwater:

- **Cantonment and Driver Training Area**: no new maximums or increasing PFAS trends observed during the current monitoring period.
- **Former 85 Transport Area**: New maximum concentrations for PFOA, PFOS and PFOS+PFHxS were reported at MW330 in March 2023, together with increasing concentration trend for both PFOA and PFOS+PFHxS. Given that MW330 is within the on-Site source area, the results do not constitute a change in risk profile or the CSM.
- **Former STP Area:** No new maximum or increasing trends in PFAS concentration were noted during this monitoring period in groundwater. New minimum concentrations of PFOS and PFOS+PFHxS was observed in MW301 in March 2023, and a decreasing trend was detected in MW301 for both PFOA and PFOS+PFHxS.
- **LFS and surrounds - Perched Water**: New maximum concentrations of PFOS and/or PFOS+PFHxS at the LFS and surround in perched groundwater were reported at MW119P and MW133 during the monitoring period. Mann Kendall analysis indicated an increasing trend in PFOS+PFHxS and PFOA at MW119P and MW133 in the perched groundwater, down hydraulic gradient of the LFS.
- **LFS and surrounds – Deep Alluvial Aquifer**: First-time detections of PFOA (MW130, MW131), and new maximum concentrations of PFOA, PFOS and/or PFOS+PFHxS (MW113, MW129, MW130, MW131) were reported in the deep alluvial aquifer within and down hydraulic gradient of the LFS. Mann Kendall analysis indicated an increasing trend in PFOA in two, and PFOS+PFHxS in four alluvial screened wells, with one additional well indicating a probably increasing trend for PFOS+PFHxS.

Overall, concentrations of PFAS within surface water remained consistent with previous monitoring. There were no new maximum concentrations reported during the monitoring period. Therefore, there is no change to the CSM.

The increasing trends in PFAS concentrations in groundwater at and down-gradient of the LFS is unclear. There was above average rainfall during the previous monitoring period (between 2021 and 2022) with high rainfall periods in March 2022 and July 2022, which may have contributed to the mobilisation and transport of PFAS, particularly in the perched groundwater. Note that during the previous monitoring period there were increases in PFAS concentrations at some monitoring wells and decreases at others following high rainfall, with no clear trend in changes to concentrations when compared to rainfall. The continued increase in this area could be a lagging impact from contaminant mobilisation initiated during these rainfall events.

Overall, data presented in this report indicates that the PFAS sources, pathways and receptors does not significantly change the understanding of the CSM. Future monitoring, changes to receptors such as new developments surrounding the Site will continue to contribute to an evaluation of any potential changes to the CSM.

10.0 Discussion

10.1 Risk Profile Review

The data collected during OMP monitoring between October 2022 and September 2023 indicates that the risk profile to human health receptors within the Management Area and surrounds remains generally unchanged since the DSI (CH2M Hill, 2018), HHERA (CH2M Hill, 2020) and HHERA Addendum (CH2M Hill, 2021). This is based on the following assessment of the OMP data:

10.1.1 Groundwater

The PFAS impacts in groundwater are generally similar to historical results, this includes continued increasing trends of PFOS+PFHxS and PFOA concentrations at Former 85 Transport Area (MW330) and LFS and surrounds. The increases could potentially be related to the above average rainfall which occurred during the previous monitoring period.

10.1.2 Surface Water

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

10.2 Assessment of current OMP

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

11.0 Conclusions

Groundwater and surface water sampling were completed in accordance with SAQP (AECOM, 2023d) and to meet the objectives of the OMP (Defence, 2020a) between October 2022 and September 2023.

Overall, the concentrations of PFAS in groundwater were similar to previous results with the exception of increasing trends of PFAS concentrations in selected groundwater monitoring wells located down-gradient of the LFS, which have continued from the previous monitoring period. The reason for the increase is not known however may be related to increased rainfall during the previous monitoring period (between 2021 and 2022), when compared to historical rainfall data potentially contributing to localised changes in mobilisation and transport of PFAS.

In locations 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 historic maximum concentrations.

PFAS concentrations in surface water were similar to historical results with no new maximum concentrations reported within the monitoring period.

The CSM was reviewed, and no changes were identified to source, pathway or receptors within the Management Area and surrounds.

Based on the data, AECOM considers that the risk profile to human health receptors within the Management Area and surrounds remains generally unchanged since the DSI (CH2M Hill, 2018), HHERA (CH2M Hill, 2020) and HHERA Addendum (CH2M Hill, 2021).

AECOM notes that the data collected during the monitoring period are considered to be representative of conditions at the time of sampling, and suitable for meeting the objectives of the OMP.

12.0 References

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Appendix A

Figures

AECOM

N

0 360 720 m

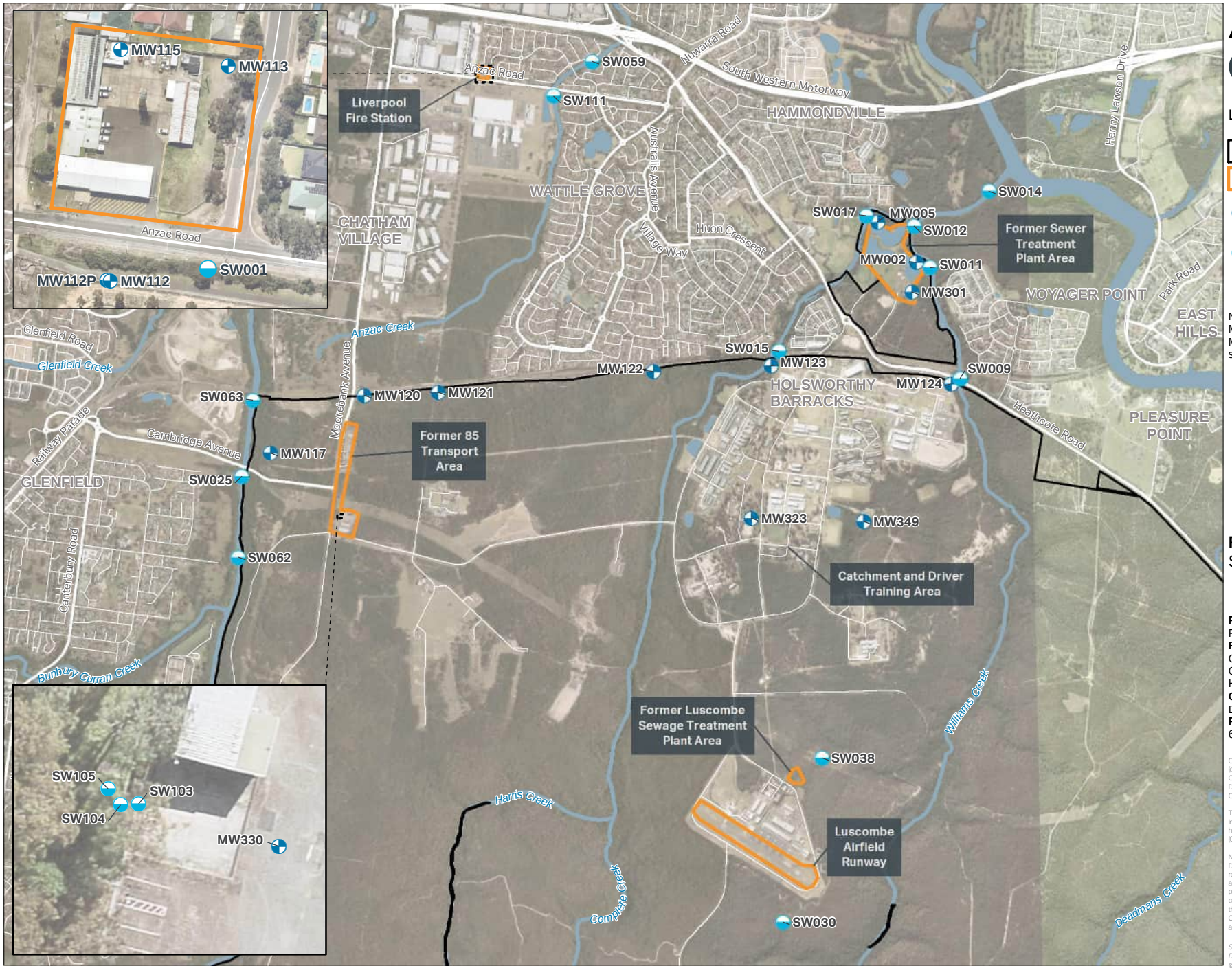
Legend

- Site Boundary
- Primary Source Area
- Management Area

FIGURE F1:
SITE LAYOUT

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020



AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Sampling Location
- Surface Water Sampling Location

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F2:
SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F3:
GROUNDWATER RESULTS – PFOS + PFHxS (DECEMBER 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Groundwater - PFOA (µg/L)

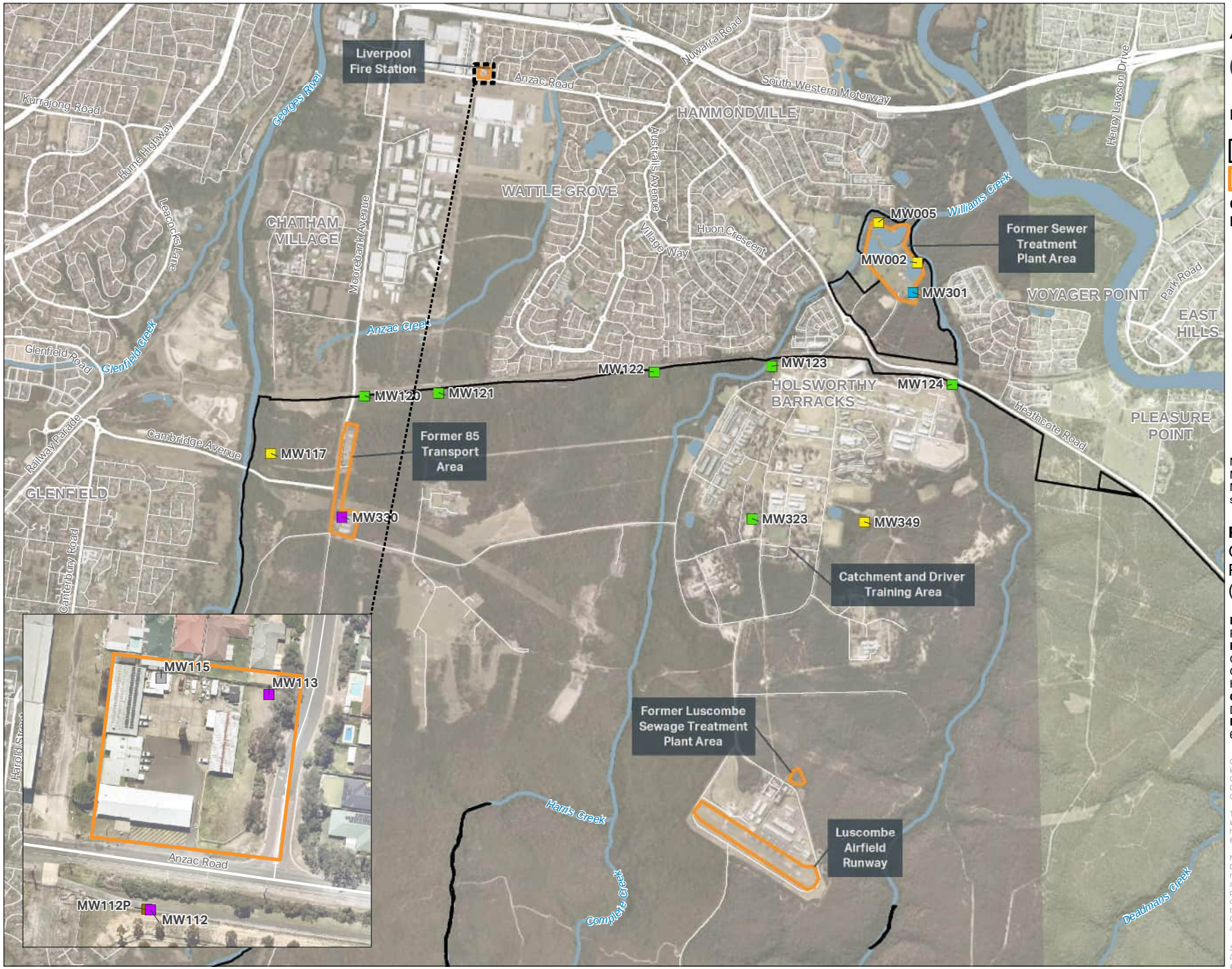
- > 50
- > 10 - 50
- > 0.56 - 10
- > 0.1 - 0.56
- Limit of Reporting - 0.1
- < Limit of Reporting
- Not Sampled/Accessed or in Scope

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F4:
GROUNDWATER RESULTS – PFOA
(DECEMBER 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020



AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F5:
GROUNDWATER RESULTS – PFOS + PFHxS (MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F6:
GROUNDWATER RESULTS – PFOA
(MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F7:
GROUNDWATER RESULTS – PFOS + PFHxS (JUNE 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F8:
GROUNDWATER RESULTS – PFOA
(JUNE 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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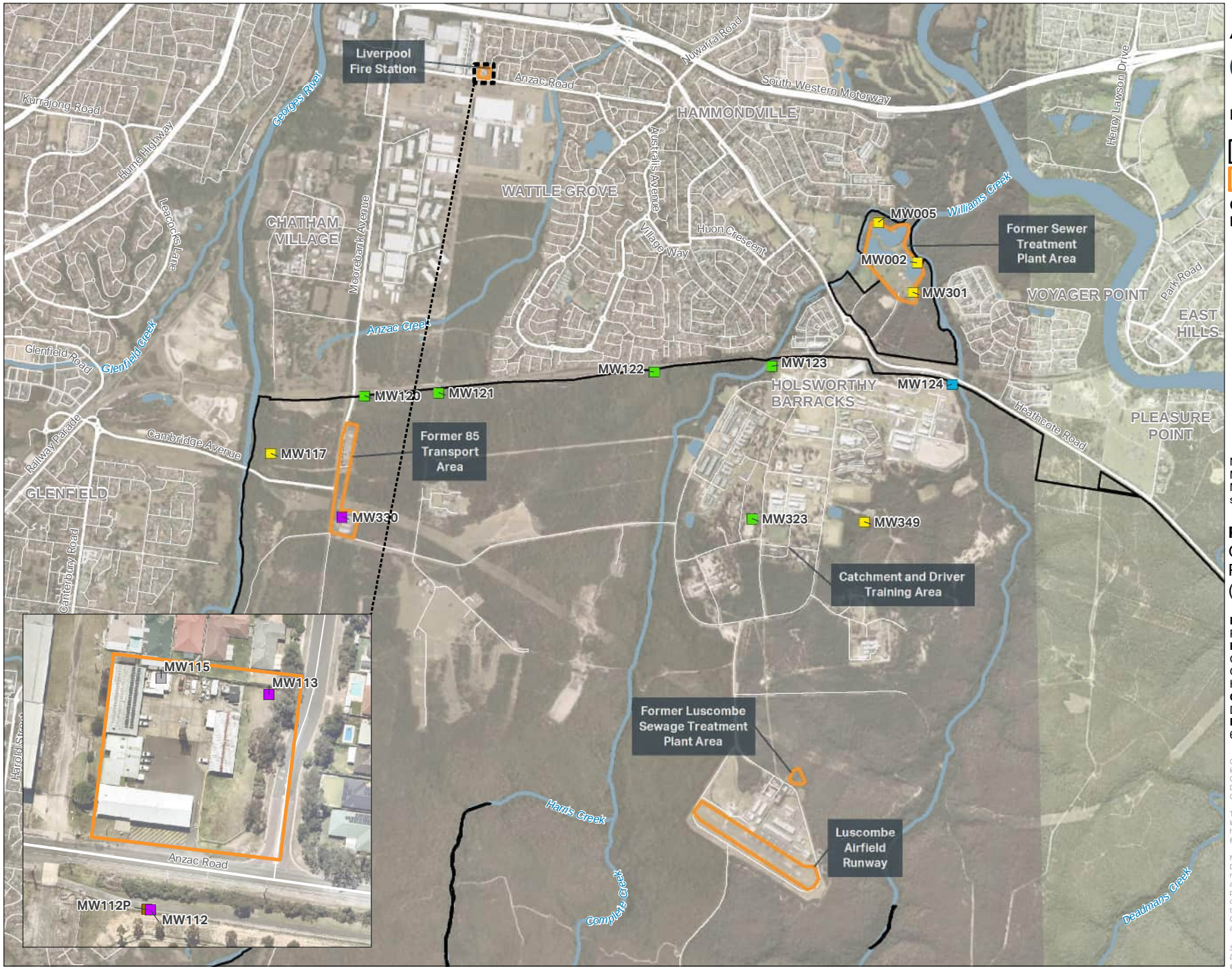

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F9:
GROUNDWATER RESULTS – PFOS + PFHxS (SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

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

Note that sampling locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134 and MW136 are not shown due to privacy considerations

FIGURE F10:
GROUNDWATER RESULTS – PFOA
(SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 RESULTS – PFOS + PFHxS (DECEMBER 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 RESULTS – PFOA
(DECEMBER 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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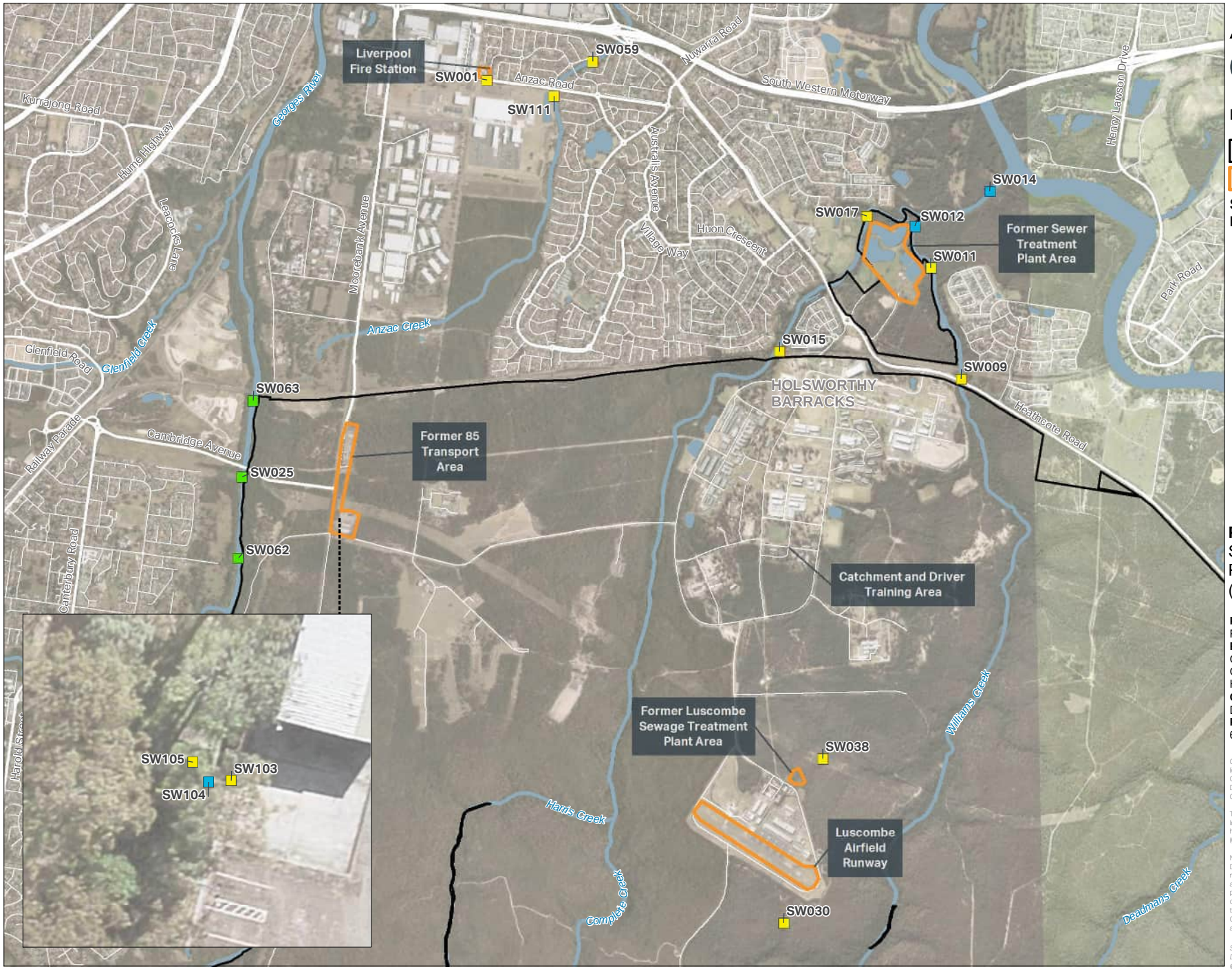

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 F13:
SURFACE WATER RESULTS – PFOS + PFHxS (MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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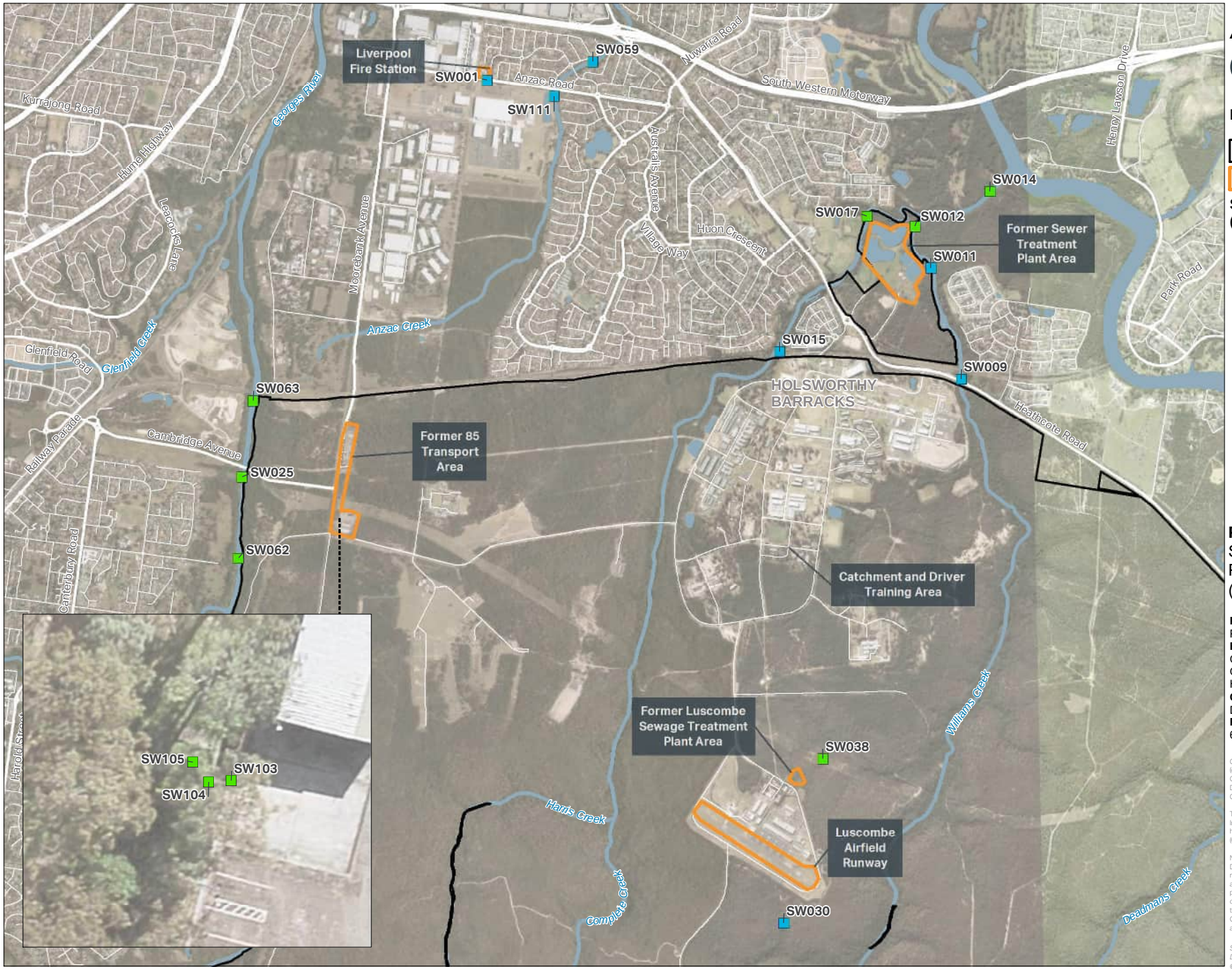

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 F14:
SURFACE WATER RESULTS – PFOA
(MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 F15:
SURFACE WATER RESULTS – PFOS + PFHxS
(JUNE 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

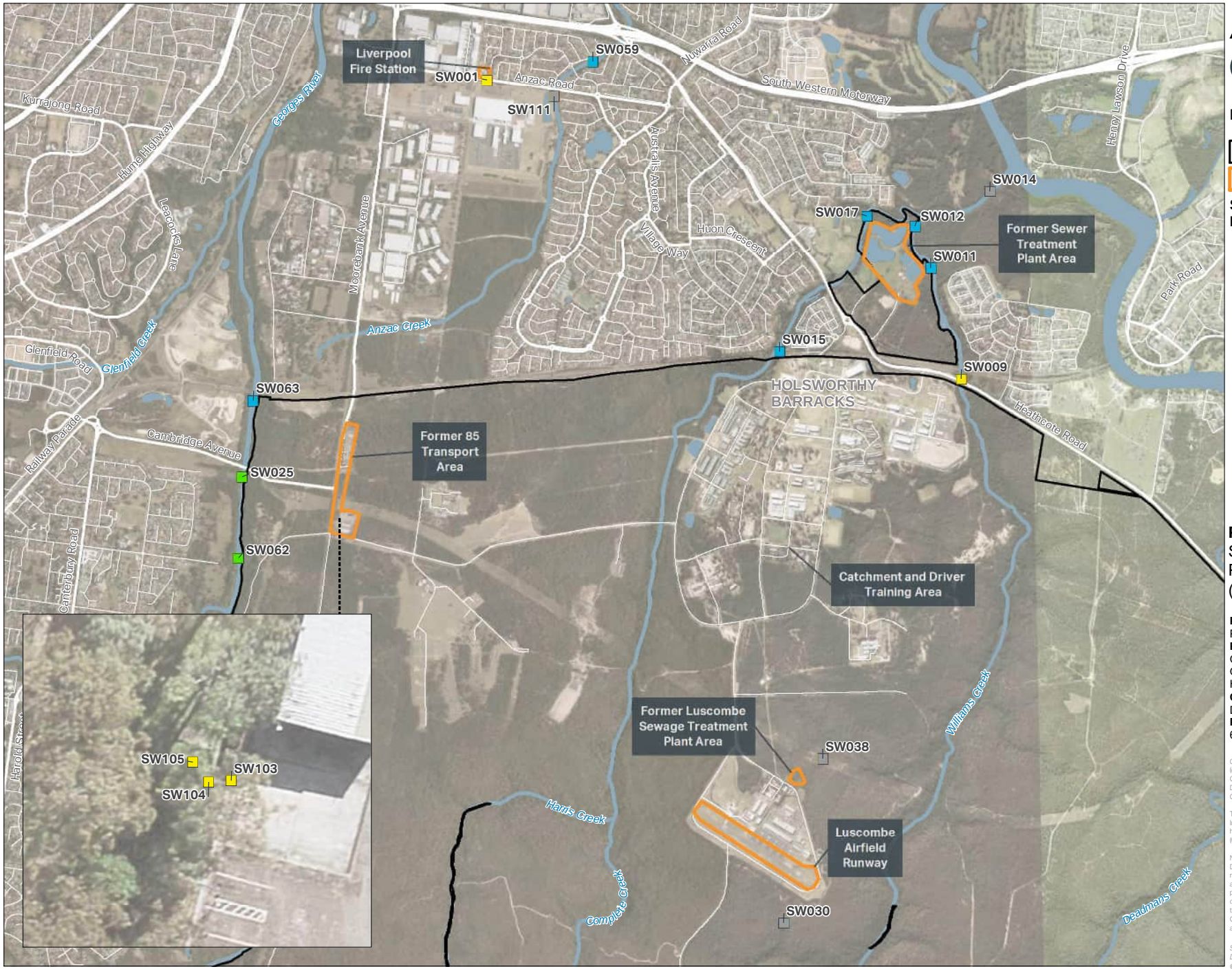
Surface Water - PFOA (µg/L)

- > 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 F16:
SURFACE WATER RESULTS – PFOA
(JUNE 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020



AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 F17:
SURFACE WATER RESULTS – PFOS + PFHxS (SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 400 800 m

Legend

- Site Boundary
- Primary Source Area

Surface Water - 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 F18:
SURFACE WATER RESULTS – PFOA
(SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour
- Inferred Groundwater Flow Direction
- Groundwater Location (not accessed/gauged)
- Groundwater Location (gauged)
- 8.348 Groundwater Elevation (mAHD)

Due to privacy considerations, locations MW119, MW129, MW130, MW131 cannot be shown.

FIGURE F19:
GROUNDWATER ELEVATION PLAN DEEP ALLUVIAL (DECEMBER 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 250 500 m

Legend

- Site Boundary
- Primary Source Area
- 10 m AHD Topographical Contour
- Groundwater Contour (March 2023)
- Inferred Groundwater Flow Direction
- Groundwater Location (gauged)
- 27.906 Groundwater Elevation (mAHD)

FIGURE F20-1:
GROUNDWATER ELEVATION PLAN BEDROCK (MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 30 60 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour Elevation (m AHD)
- Inferred Groundwater Flow Direction
- Groundwater Location (gauged)
- Groundwater Location (not accessed/gauged)
- 27 .906 Groundwater elevation (mAHD)

Due to privacy considerations, locations MW119, MW129, MW130, MW131 cannot be shown.

FIGURE F20-2:
GROUNDWATER ELEVATION PLAN DEEP ALLUVIAL MARCH 2023

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 200 400 m

Legend

- Site Boundary
- Primary Source Area
- Inferred Groundwater Flow Direction
- 10 m AHD Topographical Contour
- Groundwater Location (gauged)
- 27.906 Groundwater Elevation (mAHD)

FIGURE F20-3:
GROUNDWATER ELEVATION PLAN SHALLOW ALLUVIAL (MARCH 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour
- Inferred Groundwater Flow Direction
- Groundwater Location (not accessed/gauged)
- Groundwater Location (gauged)
- 8.348 Groundwater Elevation (mAHD)

Due to privacy considerations, locations MW119, MW129, MW130, MW131 cannot be shown.

FIGURE F21:
GROUNDWATER ELEVATION PLAN DEEP ALLUVIAL (JUNE 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 230 460 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater contour (September 2023)
- Inferred groundwater flow direction
- 10 m AHD Topographical Contour
- Groundwater Location (gauged)
- 27.906 Groundwater elevation (mAHD)

FIGURE F22-1:
GROUNDWATER ELEVATION PLAN BEDROCK (SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 30 60 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour Elevation (m AHD)
- Inferred Groundwater Flow Direction
- Groundwater Location (gauged)
- Groundwater Location (not accessed/gauged)
- 27.906 Groundwater elevation (mAHD)

Due to privacy considerations, locations MW119, MW129, MW130, MW131 cannot be shown.

FIGURE F22-2:
GROUNDWATER ELEVATION PLAN DEEP ALLUVIAL SEPTEMBER 2023

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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AECOM

N

0 180 360 m

Legend

- Site Boundary
- Primary Source Area
- 10 m AHD Topographical Contour
- Inferred Groundwater Flow Direction
- Groundwater Location (gauged)
- 27.906 Groundwater elevation (mAHD)

FIGURE F22-3:
GROUNDWATER ELEVATION PLAN SHALLOW ALLUVIAL (SEPTEMBER 2023)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Report - October 2022 - September 2023 Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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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 (mbgl)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit / Gauging Comment
MW002	MW02	3.530	Unknown	Unknown	2.20	15/03/2023 8:35	1.777	1.753	3.75	Good condition. No monument around well casing.
MW002	MW02	3.530	Unknown	Unknown	2.20	12/09/2023 12:27	2.446	1.084	3.74	Good condition. No monument around well casing.
MW005	MW05	3.157	Unknown	Unknown	3.00	14/03/2023 14:57	2.067	1.090	4.00	No monument around well casing. Well casing bent. No J-cap on well. No Hydrasleeve in well. Hydrasleeve unable to be installed after gauging due to damage.
MW005	MW05	3.157	Unknown	Unknown	3.00	12/09/2023 12:46	2.209	0.948	3.97	Good condition. No monument around well casing.
MW112	BH112	13.420	10.3	13.3	12.30	5/12/2022 12:02	4.025	9.395	13.21	Good condition.
MW112	BH112	13.420	10.3	13.3	12.00	13/03/2023 11:07	4.183	9.237	13.20	Good condition
MW112	BH112	13.420	10.3	13.3	12.00	13/06/2023 9:45	4.430	8.990	13.31	Good condition.
MW112	BH112	13.420	10.3	13.3	12.00	11/09/2023 9:18	4.645	8.775	13.19	Good condition.
MW112P	BH112_P, MW112_P	13.430	2	5	3.00	5/12/2022 11:58	1.68	11.750	5.08	Good condition.
MW112P	BH112_P, MW112_P	13.430	2	5	3.50	13/03/2023 11:22	1.681	11.749	5.12	Good condition
MW112P	BH112_P, MW112_P	13.430	2	5	3.50	13/06/2023 9:52	2.154	11.276	5.11	Good condition. No bolts.
MW112P	BH112_P, MW112_P	13.430	2	5	3.50	11/09/2023 9:23	2.226	11.204	5.10	Good condition.
MW113	BH113	13.460	10.9	14.9	11.00	5/12/2022 9:18	4.201	9.259	14.76	Good condition.
MW113	BH113	13.460	10.9	14.9	12.00	13/03/2023 10:52	4.499	8.961	14.80	Good condition
MW113	BH113	13.460	10.9	14.9	12.00	13/06/2023 9:28	4.704	8.756	14.95	Good condition.
MW113	BH113	13.460	10.9	14.9	12.00	11/09/2023 9:08	5.072	8.388	14.76	Good condition.
MW115	BH115	14.080	10.1	13.1	n/a	5/12/2022 9:31	n/a	n/a	n/a	Unable to access: under temporary demountable.
MW115	BH115	14.080	10.1	13.1	n/a	13/03/2023 11:01	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW115	BH115	14.080	10.1	13.1	n/a	13/06/2023 9:35	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW115	BH115	14.080	10.1	13.1	n/a	11/09/2023 9:00	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW117	BH117	18.130	13	17.5	16.00	14/03/2023 9:40	13.509	4.621	18.55	Good condition
MW117	BH117	18.130	13	17.5	16.00	12/09/2023 8:41	13.325	4.805	18.49	Good condition.
MW119	BH119	11.010	8	11	9.00	5/12/2022 12:34	2.19	8.820	11.19	Good condition.
MW119	BH119	11.010	8	11	9.50	13/03/2023 11:53	2.489	8.521	11.31	Good condition
MW119	BH119	11.010	8	11	9.50	13/06/2023 10:14	2.670	8.340	11.27	Good condition.
MW119	BH119	11.010	8	11	3.00	11/09/2023 9:43	3.007	8.003	11.22	Good condition.
MW119P	BH119_P, MW119_P, MW119S	11.120	2	5	4.00	5/12/2022 12:44	2.181	8.939	5.62	Good condition.
MW119P	BH119_P, MW119_P, MW119S	11.120	2	5	3.00	13/03/2023 11:59	2.561	8.559	4.65	Good condition
MW119P	BH119_P, MW119_P, MW119S	11.120	2	5	3.00	13/06/2023 10:07	2.755	8.365	4.64	Good condition.
MW119P	BH119_P, MW119_P, MW119S	11.120	2	5	9.50	11/09/2023 9:41	3.108	8.012	4.61	Good condition.
MW120	BH120	17.270	11.5	14.5	12.00	14/03/2023 11:49	2.507	14.763	15.09	Good condition
MW120	BH120	17.270	11.5	14.5	12.00	12/09/2023 9:38	3.027	14.243	15.05	Good condition.
MW121	BH121	16.470	15.3	18.3	15.00	14/03/2023 11:36	3.992	12.478	17.17	Good condition
MW121	BH121	16.470	15.3	18.3	15.00	12/09/2023 9:23	4.322	12.148	17.12	Good condition.
MW122	BH122	18.540	11.5	14.5	12.00	14/03/2023 13:14	7.309	11.231	15.31	Good condition
MW122	BH122	18.540	11.5	14.5	12.00	12/09/2023 10:30	7.977	10.563	15.31	Good condition.
MW123	BH123	7.070	2	6	5.00	15/03/2023 14:01	2.491	4.579	6.81	Good condition
MW123	BH123	7.070	2	6	5.00	13/09/2023 9:27	1.921	5.149	6.80	Good condition.
MW124	BH124	6.390	2	5	3.00	15/03/2023 13:42	3.704	2.686	5.00	Good condition
MW124	BH124	6.390	2	5	3.00	13/09/2023 9:38	3.941	2.449	4.92	Good condition. No HydraSleeve present in well.
MW129		9.526	5	8	5.50	5/12/2022 11:25	0.965	8.561	7.7	Good condition.
MW129		9.526	5	8	6.50	13/03/2023 9:47	1.101	8.425	7.70	Good condition
MW129		9.526	5	8	6.50	13/06/2023 10:56	1.330	8.196	7.74	Good condition.
MW129		9.526	5	8	6.50	11/09/2023 10:14	1.596	7.930	7.66	Good condition.
MW130		12.986	6	9	7.00	5/12/2022 9:38	4.02	8.966	8.7	Good condition.
MW130		12.986	6	9	7.50	13/03/2023 8:42	4.438	8.548	8.70	Good condition
MW130		12.986	6	9	7.50	13/06/2023 8:34	4.605	8.381	8.75	Good condition.
MW130		12.986	6	9	7.50	11/09/2023 8:12	4.997	7.989	8.67	Good condition.
MW131		12.179	7	10	8.00	5/12/2022 10:20	3.505	8.674	9.95	Good condition.
MW131		12.179	7	10	8.50	13/03/2023 9:11	3.591	8.588	9.97	Good condition
MW131		12.179	7	10	8.50	13/06/2023 9:01	3.891	8.288	10.09	Good condition.
MW131		12.179	7	10	8.50	11/09/2023 8:40	4.283	7.896	9.95	Good condition.
MW133	MW133P	13.350	2	4	3.00	5/12/2022 10:00	2.765	10.585	4.87	Good condition.
MW133	MW133P	13.350	2	4	3.00	13/03/2023 8:57	3.419	9.931	4.88	Good condition

Table T1 - Groundwater Gauging and Observations

Location Code	Alternative Name	Top of Casing (mAHD)	Top Screen (mbgl)	Bottom Screen (mbgl)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit / Gauging Comment
MW133	MW133P	13.350	2	4	3.00	13/06/2023 8:49	3.693	9.657	4.88	Good condition.
MW133	MW133P	13.350	2	4	3.00	11/09/2023 8:32	3.853	9.497	4.87	Good condition.
MW134	MW134P	13.210	1.9	3.9	3.00	5/12/2022 11:47	3.861	9.349	4.65	Water depth measured after Hydrasleeve removal.
MW134	MW134P	13.210	1.9	3.9	3.00	13/03/2023 10:23	3.984	9.226	4.68	Good condition
MW134	MW134P	13.210	1.9	3.9	3.00	13/06/2023 9:19	4.655	8.555	4.67	Good condition. Well considered dry for the purpose of sampling.
MW134	MW134P	13.210	1.9	3.9	3.00	11/09/2023 8:59	-	-	4.66	Good condition, monitoring well dry.
MW136	MW136P	11.860	2.25	4.25	3.00	5/12/2022 11:02	2.525	9.335	4.95	Good condition.
MW136	MW136P	11.860	2.25	4.25	3.00	13/03/2023 9:32	3.019	8.841	4.96	Good condition
MW136	MW136P	11.860	2.25	4.25	3.00	13/06/2023 9:10	3.290	8.570	4.95	Good condition.
MW136	MW136P	11.860	2.25	4.25	3.00	11/09/2023 8:48	2.973	8.887	4.95	Good condition.
MW301	MW1	3.383	Unknown	Unknown	3.00	14/03/2023 16:05	1.608	1.775	4.57	Good condition. No monument around well casing.
MW301	MW1	3.383	Unknown	Unknown	3.00	12/09/2023 14:51	1.793	1.590	4.55	Good condition. No monument around well casing.
MW323	BH345	36.380	9	15	13.00	15/03/2023 12:55	8.196	28.184	15.19	Good condition
MW323	BH345	36.380	9	15	13.00	13/09/2023 9:08	8.427	27.953	15.00	Good condition.
MW330	BH365	29.530	4	10	8.00	14/03/2023 8:37	5.218	24.312	9.91	Good condition
MW330	BH365	29.530	4	10	8.00	12/09/2023 14:43	5.545	23.985	9.87	Good condition.
MW349	BH612	18.420	3.9	8.2	6.00	15/03/2023 13:27	4.084	14.336	7.69	Good condition
MW349	BH612	18.420	3.9	8.2	6.00	13/09/2023 10:10	4.482	13.938	7.68	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	Redox Potential Er	Redox Potential Eh (Corrected)
				mg/L	°C	uS/cm	pH Units	mV	mV
Location Code	**Date**	**Monitoring Round**	**Sample Comments**						
MW002	15 Mar 2023	202303_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	0.23	20.3	251.2	6.07	-64.0	141.8
MW002	12 Sep 2023	202309_AECOM_OMP	Brown, medium turbidity, no odour, no sheen.	0.67	17.3	364.7	6.65	-127.8	78.0
MW005	14 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen. Sampled with bailer due to casing damage.	0.28	19.4	3,006.0	6.48	-52.6	153.2
MW005	12 Sep 2023	202309_AECOM_OMP	Brown, medium turbidity, no odour, no sheen.	0.97	14.7	3,572.0	6.35	18.8	224.6
MW112	05 Dec 2022	202212_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.44	20.7	1,830.0	6.07	73.6	279.4
MW112	13 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	0.92	20.5	1,925.0	6.03	110.8	316.6
MW112	13 Jun 2023	202306_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.35	19.7	1,675.0	6.17	65.2	271.0
MW112	11 Sep 2023	202309_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	6.14	18.8	1,549.0	6.62	88.5	294.3
MW112P	05 Dec 2022	202212_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	2.15	22.6	221.5	5.20	112.1	317.9
MW112P	13 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	1.22	22.6	353.9	5.09	201.8	407.6
MW112P	13 Jun 2023	202306_AECOM_OMP	Light grey, low turbidity, no odour, no sheen.	1.58	18.5	336.7	5.40	45.3	251.1
MW112P	11 Sep 2023	202309_AECOM_OMP	Grey, low turbidity, no odour, no sheen.	2.74	16.8	366.0	5.37	93.4	299.2
MW113	05 Dec 2022	202212_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	0.00	23.4	172.1	6.16	56.2	262.0
MW113	13 Mar 2023	202303_AECOM_OMP	Clear, medium turbidity, no odour, no sheen.	1.79	20.3	245.4	5.29	126.1	331.9
MW113	13 Jun 2023	202306_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	1.23	19.3	270.6	5.62	-18.2	187.6
MW113	11 Sep 2023	202309_AECOM_OMP	Grey, no turbidity, no odour, no sheen.	4.38	19.7	302.4	5.82	-18.5	187.3
MW115	05 Dec 2022	202212_AECOM_OMP	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	n/a	n/a	n/a	n/a	n/a	n/a
MW115	13 Mar 2023	202303_AECOM_OMP	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	n/a	n/a	n/a	n/a	n/a	n/a
MW115	13 Jun 2023	202306_AECOM_OMP	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	n/a	n/a	n/a	n/a	n/a	n/a
MW115	11 Sep 2023	202309_AECOM_OMP	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	n/a	n/a	n/a	n/a	n/a	n/a
MW117	14 Mar 2023	202303_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.23	19.1	798.0	5.37	38.8	244.6
MW117	12 Sep 2023	202309_AECOM_OMP	Grey, low turbidity, no odour, no sheen.	1.56	16.2	863.0	5.25	195.0	400.8
MW119	05 Dec 2022	202212_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	2.19	21.6	957.0	6.94	50.1	255.9
MW119	13 Mar 2023	202303_AECOM_OMP	Light brown, no turbidity, no odour, no sheen.	2.21	20.3	982.0	7.00	133.3	339.1
MW119	13 Jun 2023	202306_AECOM_OMP	Light grey, low turbidity, no odour, no sheen.	1.30	19.1	878.0	7.18	116.3	322.1
MW119	11 Sep 2023	202309_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	4.97	19.1	1,226.0	7.16	-37.5	168.3
MW119P	05 Dec 2022	202212_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	3.58	21.9	799.0	4.79	201.1	406.9
MW119P	13 Mar 2023	202303_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	2.69	21.6	839.0	5.25	218.1	423.9
MW119P	13 Jun 2023	202306_AECOM_OMP	Light yellow, low turbidity, no odour, no sheen.	3.50	18.8	712.0	4.75	119.1	324.9
MW119P	11 Sep 2023	202309_AECOM_OMP	Grey, no turbidity, no odour, no sheen.	2.37	18.5	1,471.0	4.54	192.1	397.9
MW120	14 Mar 2023	202303_AECOM_OMP	Orange, low turbidity, no odour, no sheen.	0.45	19.2	6,451.0	6.62	-4.7	201.1
MW120	12 Sep 2023	202309_AECOM_OMP	Light brown, medium turbidity, no odour, no sheen.	1.82	17.8	7,777.0	6.65	83.9	289.7
MW121	14 Mar 2023	202303_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	0.25	19.1	3,367.0	6.39	88.8	294.6
MW121	12 Sep 2023	202309_AECOM_OMP	Light brown, medium turbidity, no odour, no sheen.	1.88	17.9	863.0	6.47	63.5	269.3
MW122	14 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	1.39	19.8	528.0	5.54	202.0	407.8
MW122	12 Sep 2023	202309_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	4.63	18.9	502.0	5.51	229.7	435.5
MW123	15 Mar 2023	202303_AECOM_OMP	Orange, low turbidity, no odour, no sheen.	1.14	23.2	9,823.0	6.64	-7.0	198.8
MW123	13 Sep 2023	202309_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	1.08	15.0	10,913.0	6.49	31.2	237.0
MW124	15 Mar 2023	202303_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	1.29	24.4	6,150.0	5.31	124.6	330.4
MW124	13 Sep 2023	202309_AECOM_OMP	Light brown, low turbidity, no odour, no sheen. No HydraSleeve present in well, sampled with bailer.	2.28	17.5	4,200.0	4.93	211.9	417.7
MW129	05 Dec 2022	202212_AECOM_OMP	Light brown, medium turbidity, no odour, no sheen.	1.45	21.6	3,518.0	5.52	45.5	251.3
MW129	13 Mar 2023	202303_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	0.30	21.9	1,177.0	6.44	-67.4	138.4
MW129	13 Jun 2023	202306_AECOM_OMP	Yellow, low turbidity, no odour, no sheen.	4.26	18.7	519.0	7.09	64.0	269.8
MW129	11 Sep 2023	202309_AECOM_OMP	Grey, low turbidity, no odour, no sheen.	4.96	17.9	1,575.0	6.57	45.0	250.8
MW130	05 Dec 2022	202212_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	1.43	23.8	1,457.0	4.55	183.4	389.2
MW130	13 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	0.75	21.3	1,860.0	5.71	170.0	375.8
MW130	13 Jun 2023	202306_AECOM_OMP	Yellow, medium turbidity, no odour, no sheen.	2.52	19.2	904.0	4.68	212.9	418.7
MW130	11 Sep 2023	202309_AECOM_OMP	Grey, no turbidity, no odour, no sheen.	0.31	20.0	771.0	4.15	266.9	472.7
MW131	05 Dec 2022	202212_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	3.64	22.6	1,544.0	5.65	187.5	393.3
MW131	13 Mar 2023	202303_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.55	21.3	1,649.0	5.40	162.2	368.0
MW131	13 Jun 2023	202306_AECOM_OMP	Light grey, low turbidity, no odour, no sheen.	1.84	20.6	1,386.0	5.87	157.7	363.5
MW131	11 Sep 2023	202309_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	4.39	19.7	1,304.0	6.41	176.4	382.2
MW133	05 Dec 2022	202212_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	2.69	24.0	333.1	5.23	202.5	408.3
MW133	13 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	1.79	23.7	361.3	5.68	115.6	321.4
MW133	13 Jun 2023	202306_AECOM_OMP	Light yellow, medium turbidity, no odour, no sheen.	2.21	20.8	584.0	6.40	175.4	381.2
MW133	11 Sep 2023	202309_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	4.75	17.9	815.0	6.49	278.1	483.9
MW134	05 Dec 2022	202212_AECOM_OMP	Brown, high turbidity, no odour, no sheen. Insufficient volume for parameters.	n/a	n/a	n/a	n/a	n/a	n/a
MW134	13 Mar 2023	202303_AECOM_OMP	Brown, high turbidity, no odour, no sheen. Sampled with bailer due to insufficient water in the well.	3.14	21.6	387.9	6.15	24.2	230.0
MW134	13 Jun 2023	202306_AECOM_OMP	n/a - not sampled, insufficient water column to sample.	n/a	n/a	n/a	n/a	n/a	n/a
MW134	11 Sep 2023	202309_AECOM_OMP	n/a - not sampled, monitoring well dry.	n/a	n/a	n/a	n/a	n/a	n/a
MW136	05 Dec 2022	202212_AECOM_OMP	Brown, medium turbidity, organic odour, no sheen.	1.01	25.4	2,332.0	6.35	-160.2	45.6

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	uS/cm	pH Units	mV	mV
Location Code	**Date**	**Monitoring Round**	**Sample Comments**						
MW136	13 Mar 2023	202303_AECOM_OMP	Dark grey, low turbidity, organic odour, no sheen.	1.91	22.8	1,409.0	6.02	-59.0	146.8
MW136	13 Jun 2023	202306_AECOM_OMP	Light grey, medium turbidity, organic odour, no sheen.	2.30	20.5	1,402.0	6.47	-21.5	184.3
MW136	11 Sep 2023	202309_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.81	18.6	1,246.0	5.77	-18.2	187.6
MW301	14 Mar 2023	202303_AECOM_OMP	Light brown, low turbidity, no odour, no sheen.	1.69	22.3	1,181.0	6.29	29.2	235.0
MW301	12 Sep 2023	202309_AECOM_OMP	Orange, medium turbidity, no odour, no sheen.	1.62	14.1	1,132.0	6.67	27.2	233.0
MW323	15 Mar 2023	202303_AECOM_OMP	Clear, no turbidity, no odour, no sheen.	1.28	22.6	11,200.0	6.61	-25.4	180.4
MW323	13 Sep 2023	202309_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	1.30	17.8	13,211.0	6.48	-18.6	187.2
MW330	14 Mar 2023	202303_AECOM_OMP	Light brown, medium turbidity, no odour, no sheen.	0.23	22.1	5,810.0	3.98	298.0	503.8
MW330	12 Sep 2023	202309_AECOM_OMP	Dark grey, medium turbidity, no odour, no sheen.	1.66	21.5	2,574.0	4.11	349.8	555.6
MW349	15 Mar 2023	202303_AECOM_OMP	Clear, low turbidity, no odour, no sheen.	0.46	24.3	7,800.0	5.33	118.4	324.2
MW349	13 Sep 2023	202309_AECOM_OMP	Grey, low turbidity, no odour, no sheen	1.38	18.2	1,047.0	5.40	95.1	300.9

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

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	uS/cm	pH Units	mV	mV
Location Code	**Date**	**Monitoring Round**	**Location Comments**	**Depth**	**Sample Comments**						
SW001	05 Dec 2022	202212_AECOM_OMP	Small drainage channel surrounded by reeds. Water body width (approx.): 1 m, water body depth (approx.): 0.05 m. Water flow not observed.	0 - 0.05	Dark grey, high turbidity, no odour, biosheen.	0.20	25.6	456.8	7.17	-175.0	30.8
SW001	15 Mar 2023	202303_AECOM_OMP	Drainage channel, 1 m wide, 0.1 m deep, reeds. Water flow observed.	0.1 - 0.2	Light yellow, medium turbidity, no odour, no sheen.	2.30	20.3	176.0	6.31	167.4	373.2
SW001	13 Jun 2023	202306_AECOM_OMP	Swale/drainage channel. Waterbody dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW001	11 Sep 2023	202309_AECOM_OMP	Swale/drainage channel, 1m wide, 0.2m deep. Biosheen observed, suspended organic materials. Water flow not observ	0.05 - 0.1	Clear, no turbidity, no odour, no sheen.	2.46	12.1	215.3	6.55	86.5	292.3
SW009	13 Mar 2023	202303_AECOM_OMP	River, 10 m wide, unknown depth, no flow observed, reeds on banks. Water flow not observed.	0.1 - 0.2	Light yellow, low turbidity, no odour, no sheen.	2.93	23.4	365.5	6.24	90.2	296.0
SW009	11 Sep 2023	202309_AECOM_OMP	Creek, 0.7m wide, approx. 0.5m deep. Water flow observed towards north. Sampled approximately 100m from intended location due to inaccessibility (Construction site blocking access).	0.2 - 0.25	Clear, medium turbidity, no odour, no sheen.	7.73	14.6	269.2	6.85	57.4	263.2
SW011	15 Mar 2023	202303_AECOM_OMP	River, 30 m wide, unknown depth, mangroves on banks. Water flow observed.	0.1 - 0.2	Light brown, medium turbidity, no odour, no sheen.	5.58	21.7	2,248.0	6.71	-7.2	198.6
SW011	12 Sep 2023	202309_AECOM_OMP	River, 35m wide, unknown depth. Water flow observed.	0.2 - 0.3	Clear, low turbidity, no odour, no sheen.	5.51	18.9	4,327.0	6.93	16.3	222.1
SW012	14 Mar 2023	202303_AECOM_OMP	Creek, 20 m wide, unknown depth, light vegetation on banks. Water flow observed.	0.1 - 0.2	Light brown, low turbidity, no odour, no sheen.	3.41	24.1	6,936.0	7.14	30.1	235.9
SW012	12 Sep 2023	202309_AECOM_OMP	River, 25m wide, unknown depth. Water flow observed.	0.2 - 0.3	Clear, low turbidity, no odour, no sheen.	4.80	17.4	2,617.0	7.09	79.9	285.7
SW014	15 Mar 2023	202303_AECOM_OMP	River, 25 m wide, unknown depth, light shrubs. Water flow observed.	0.1 - 0.2	Light brown, low turbidity, no odour, no sheen.	2.31	23.0	3,757.0	7.00	31.9	237.7
SW014	13 Sep 2023	202309_AECOM_OMP	River. Inaccessible due to bushfires and road closures.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW015	13 Mar 2023	202303_AECOM_OMP	Creek, 2 m wide, 0.5 m deep, reeds and small shrubs on bank. Water flow observed.	0.1 - 0.2	Light yellow, low turbidity, no odour, no sheen.	3.37	22.0	349.1	6.46	41.2	247.0
SW015	11 Sep 2023	202309_AECOM_OMP	Creek, 2m wide, 0.5m deep. Water flow not observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.	7.73	14.6	269.2	6.85	57.4	263.2
SW017	14 Mar 2023	202303_AECOM_OMP	Creek, 6 m wide, unknown depth, shurbs on banks. Water flow observed.	0.1 - 0.2	Light brown, low turbidity, organic odour, no sheen.	6.09	21.9	763.0	6.70	129.7	335.5
SW017	12 Sep 2023	202309_AECOM_OMP	Creek, 2m wide, 0.1m deep. Water flow observed.	0.1 - 0.15	Clear, no turbidity, no odour, no sheen.	4.15	16.3	2,941.0	6.52	69.8	275.6
SW025	13 Mar 2023	202303_AECOM_OMP	River, 20 m wide, unknown depth, shurbs on banks. Water flow observed.	0.1 - 0.2	Light yellow, no turbidity, no odour, no sheen.	5.74	23.5	259.1	7.06	65.5	271.3
SW025	11 Sep 2023	202309_AECOM_OMP	River, 20m wide, unknown depth. Water flow not observed.	0.3 - 0.4	Clear, medium turbidity, no odour, no sheen.	7.28	17.1	489.7	7.76	73.9	279.7
SW030	15 Mar 2023	202303_AECOM_OMP	Creek, 1 m wide, 20 cm depth, leaf litter. Water flow not observed.	0.1 - 0.2	Dark brown, medium turbidity, organic odour, no sheen.	4.02	24.0	256.6	5.66	184.7	390.5
SW030	13 Sep 2023	202309_AECOM_OMP	Creek. Inaccessible due to bushfires.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW038	15 Mar 2023	202303_AECOM_OMP	Creek, 0.5 m wide, 0.1m deep, small shrubs on sides. Water flow observed.	0.1 - 0.2	Clear, no turbidity, no odour, no sheen.	4.42	26.3	304.0	6.96	86.4	292.2
SW038	13 Sep 2023	202309_AECOM_OMP	Creek. Inaccessible due to bushfires.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW059	05 Dec 2022	202212_AECOM_OMP	Small channel with grasses and trees on banks. Water body width (approx.): 1 m, water body depth (approx.): 0.2 m. Water flow observed.	0 - 0.2	Clear, no turbidity, no odour, biosheen.	5.84	24.9	358.0	6.98	28.9	234.7
SW059	13 Mar 2023	202303_AECOM_OMP	Creek, 2 m wide, 0.5 m deep, small shrubs on banks. Water flow not observed.	0.1 - 0.2	Light grey, low turbidity, no odour, biosheen.	3.21	21.2	387.9	6.67	31.0	236.8
SW059	13 Jun 2023	202306_AECOM_OMP	Creek. Waterbody 1 m wide, 0.2 m deep. Water flow not observed.	0.1 - 0.2	Clear, no turbidity, no odour, no sheen.	5.62	12.0	259.7	7.02	67.8	273.6
SW059	11 Sep 2023	202309_AECOM_OMP	Creek, 2m wide, 0.1-0.2m deep. Water flow not observed.	0.2 - 0.25	Clear, no turbidity, no odour, no sheen.	5.04	13.6	234.5	6.94	23.3	229.1
SW062	13 Mar 2023	202303_AECOM_OMP	River, 20 m wide, trees on banks, unknown depth. Water flow observed.	0.1 - 0.2	Light yellow, low turbidity, no odour, no sheen.	3.62	24.5	264.8	6.96	102.9	308.7
SW062	11 Sep 2023	202309_AECOM_OMP	River, 20m wide, unknown depth. Water flow observed.	0.3 - 0.35	Clear, medium turbidity, no odour, no sheen.	7.41	17.1	489.7	7.76	73.9	279.7
SW063	14 Mar 2023	202303_AECOM_OMP	River, 10m wide, unknown depth, mangroves on banks. Water flow observed.	0.1 - 0.2	Brown, low turbidity, organic odour, no sheen.	3.14	22.5	264.3	6.88	25.9	231.7
SW063	12 Sep 2023	202309_AECOM_OMP	River, 20m wide, unknown depth. Water flow observed.	0.3 - 0.35	Grey, medium turbidity, no odour, no sheen.	6.56	15.6	450.6	7.17	116.3	322.1
SW103	14 Mar 2023	202303_AECOM_OMP	Drainage channel, 5 m long, 0.75 m wide, anthropogenic material in water. Water flow not observed.	0.1 - 0.2	Blue, medium turbidity, no odour, no sheen.	0.89	21.1	669.0	6.91	-39.7	166.1
SW103	12 Sep 2023	202309_AECOM_OMP	Concreted drainage channel, 0.5m wide, 0.5m deep, 4m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	0.19	16.0	323.1	6.75	6.1	211.9
SW104	14 Mar 2023	202303_AECOM_OMP	Covered pit, 4 m long, 0.75m wide. Water flow not observed.	0.1 - 0.2	Blue, low turbidity, no odour, no sheen.	0.23	22.9	523.0	6.95	-98.3	107.5
SW104	12 Sep 2023	202309_AECOM_OMP	Covered pit, 0.5m wide, unknown depth, 2m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	1.01	15.5	121.4	6.84	17.5	223.3
SW105	14 Mar 2023	202303_AECOM_OMP	Covered pit, 4 m long, 0.75 m wide. Water flow not observed.	0.1 - 0.2	Blue, low turbidity, organic odour, no sheen.	0.56	22.9	451.2	6.90	-104.9	100.9
SW105	12 Sep 2023	202309_AECOM_OMP	Covered pit, 0.5m wide, unknown depth, 2m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	0.39	15.1	119.6	6.89	21.1	226.9
SW111	05 Dec 2022	202212_AECOM_OMP	Creek with grasses and trees on banks. Water body width (approx.): 4 m, water body depth (approx.): 0.3 m. Water flow not observed.	0 - 0.2	Clear, low turbidity, no odour, biosheen. Dark brown suspended solids.	6.40	26.0	312.6	7.02	105.4	311.2
SW111	13 Mar 2023	202303_AECOM_OMP	Creek, 3 m wide, unknown depth, no flow, biosheen, reeds on banks. Water flow not observed.	0.1 - 0.2	Light yellow, no turbidity, no odour, biosheen.	3.26	20.7	195.6	6.50	154.3	360.1
SW111	13 Jun 2023	202306_AECOM_OMP	Creek. Waterbody dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW111	11 Sep 2023	202309_AECOM_OMP	Creek. Dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

Table T4 - 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 95%						*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
MW002	20 Feb 2018	0382_MW02_180220	Normal	NSW_0382_PFAS		0.35	*0.16*	0.08	**0.24**	1.11	0.02	<0.01	<0.01	<0.01	0.05	0.1	0.14	0.1	0.03	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
MW002	01 Oct 2020	0382_MW002_201001	Normal	NSW_0382_PFASOMP_20		0.2	0.04	0.05	**0.09**	0.85	0.28	<0.02	<0.02	<0.02	<0.1	0.08	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
MW002	01 Oct 2020	0382_QC102_201001	Field_D	NSW_0382_PFASOMP_20		0.17	0.03	0.04	0.07	0.43	<0.02	<0.02	<0.02	<0.02	<0.1	0.08	0.07	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
MW002	26 Mar 2021	0382_MW002_210326	Normal	NSW_0382_PFASOMP_20		0.05	0.03	0.02	0.05	0.19	<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	0.03	<0.05	<0.05	0.03	<0.05
MW002	06 Sep 2021	0382_MW002_210906	Normal	NSW_0382_PFASOMP_20		0.14	0.04	0.03	0.07	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.04	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
MW002	21 Mar 2022	0382_MW002_220321	Normal	NSW_0382_PFASOMP_20		0.21	0.12	0.04	**0.16**	0.56	0.04	<0.02	<0.02	<0.02	<0.1	0.05	0.06	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
MW002	06 Sep 2022	0382_MW002_220906	Normal	NSW_0382_PFASOMP_20		0.17	0.07	0.04	**0.11**	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.05	0.05	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
MW002	15 Mar 2023	0382_MW002_230315	Normal	NSW_0382_PFASOMP_23		0.09	0.09	0.02	**0.11**	0.25	<0.02	<0.02	<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	0.03	<0.05	<0.05	<0.02	<0.05
MW002	12 Sep 2023	0382_MW002_230912	Normal	NSW_0382_PFASOMP_23		0.12	0.08	0.02	**0.1**	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	<0.02	<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	21 Feb 2018	0382_MW05_180221	Normal	NSW_0382_PFAS		0.03	0.11	0.11	**0.22**	0.34	0.01	0.01	<0.01	<0.01	<0.05	0.02	0.04	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW005	21 Mar 2022	0382_MW005_220321	Normal	NSW_0382_PFASOMP_20		0.01	0.04	0.03	0.07	0.2	0.12	<0.02	<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
MW005	06 Sep 2022	0382_MW005_220906	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.05	**0.16**	0.18	<0.02	<0.02	<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
MW005	14 Mar 2023	0382_MW005_230314	Normal	NSW_0382_PFASOMP_23		0.02	0.06	0.04	**0.1**	0.2	0.08	<0.02	<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
MW005	12 Sep 2023	0382_MW005_230912	Normal	NSW_0382_PFASOMP_23		0.03	0.06	0.05	**0.11**	0.29	0.15	<0.02	<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
MW112	28 Mar 2018	0382_MW112_180328	Normal	NSW_0382_PFAS		**4.3**	*64*	58	**122**	162.2	6.7	12	3.3	<0.01	0.99	1.5	9.7	1.7	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112	01 Oct 2020	0382_MW112_201001	Normal	NSW_0382_PFASOMP_20		**4.75**	*52.8*	70.4	**123**	167	6.32	10.3	6.01	<0.02	1	1.87	11.6	1.97	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	03 Dec 2020	0382_MW112_201203	Normal	NSW_0382_PFASOMP_20		**3.03**	*30*	42.4	**72.4**	100	3.86	6.31	2.92	<0.02	0.9	1.29	8.16	1.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	25 Mar 2021	0382_MW112_210325	Normal	NSW_0382_PFASOMP_20		**3.76**	*25.7*	47.4	**73.1**	104	5.13	6.3	2.92	<0.02	0.9	1.46	8.38	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	07 Jun 2021	0382_MW112_210607	Normal	NSW_0382_PFASOMP_20		**4.14**	*37.9*	49.5	**87.4**	123	5.33	8.27	4.27	<0.02	0.9	1.53	9.4	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	07 Sep 2021	0382_MW112_210907	Normal	NSW_0382_PFASOMP_20		**3.12**	*21.2*	44	**65.2**	93.8	4.61	6.47	3.01	<0.02	0.8	1.33	7.88	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	06 Dec 2021	0382_MW112_211206	Normal	NSW_0382_PFASOMP_20		**2.43**	*34.9*	46.8	**81.7**	111	5.31	5.51	3.65	<0.02	0.9	1.26	9.28	1.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	23 Mar 2022	0382_MW112_220323	Normal	NSW_0382_PFASOMP_20		**3.25**	*31.8*	48.8	**80.6**	109	5.01	6	3.21	<0.02	0.6	1.14	8.13	1.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	15 Jun 2022	0382_MW112_220615	Normal	NSW_0382_PFASOMP_20		**4.72**	*45.6*	72	**118**	159	7.22	8.57	4.3	<0.05	1.2	1.77	11.6	2.01	<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
MW112	05 Sep 2022	0382_MW112_220905	Normal	NSW_0382_PFASOMP_20		**1.56**	*22*	32.4	**54.4**	71.5	2.02	4	4.1	<0.02	0.4	0.72	3.61	0.65	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	05 Dec 2022	0382_MW112_221205	Normal	NSW_0382_PFASOMP_20		**1.93**	*25.1*	36	**61.1**	81.7	2.86	4.48	4.35	<0.02	0.5	0.82	4.84	0.82	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	13 Mar 2023	0382_MW112_230313	Normal	NSW_0382_PFASOMP_23		**2.65**	*27.2*	40.4	**67.6**	90	3.46	4.96	3.02	<0.02	0.7	1.07	5.46	1.03	<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
MW112	13 Jun 2023	0382_MW112_230613	Normal	NSW_0382_PFASOMP_23		**2.19**	*26.8*	36	**62.8**	81.3	3.03	4.11	2.62	<0.02	0.5	0.79	4.41	0.84	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	11 Sep 2023	0382_MW112_230911	Normal	NSW_0382_PFASOMP_23		**1.58**	*23.8*	31.3	**55.1**	70.6	2.42	4.31	2.58	<0.02	0.4	0.56	3.01	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	28 Mar 2018	0382_MW112_P_180328	Normal	NSW_0382_PFAS		0.33	*50*	6	**56**	60.19	0.33	1.2	0.34	<0.01	0.16	0.3	1.4	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112P	01 Oct 2020	0382_MW112_P_201001	Normal	NSW_0382_PFASOMP_20		0.4	*37.3*	8.1	**45.4**	49.8	0.33	0.64	0.52	<0.02	0.2	0.35	1.78	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	03 Dec 2020	0382_MW112_P_201203	Normal	NSW_0382_PFASOMP_20		0.22	*23.2*	4.43	**27.6**	30.2	0.2	0.38	0.29	<0.02	0.1	0.22	1.09	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	25 Mar 2021	0382_MW112_P_210325	Normal	NSW_0382_PFASOMP_20		0.25	*20.1*	4.75	**24.8**	27.7	0.19	0.28	0.24	<0.02	0.2	0.24	1.35	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
MW112P	25 Mar 2021	0382_QC100_210325	Field_D	NSW_0382_PFASOMP_20		0.25	*22.5*	5.06	**27.6**	30.6	0.21	0.31	0.27	<0.02	0.2	0.26	1.45	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
MW112P	07 Jun 2021	0382_MW112P_210607	Normal	NSW_0382_PFASOMP_20		0.33	*28.2*	5.56	**33.8**	37	0.24	0.4	0.36	<0.02	0.2	0.28	1.32	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	07 Sep 2021	0382_MW112P_210907	Normal	NSW_0382_PFASOMP_20		0.24	*19.1*	4.68	**23.8**	26.6	0.2	0.32	0.29	<0.02	0.2	0.23	1.26	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
MW112P	06 Dec 2021	0382_MW112P_211206	Normal	NSW_0382_PFASOMP_20		0.19	*20.8*	3.9	**24.7**	27.2	0.18	0.24	0.23	<0.02	0.2	0.2	1.17	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
MW112P	23 Mar 2022	0382_MW112P_220323	Normal	NSW_0382_PFASOMP_20		0.05	*7.08*	1.67	**8.75**	9.18	0.04	0.08	0.09	<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
MW112P	15 Jun 2022	0382_MW112P_220615	Normal	NSW_0382_PFASOMP_20		0.26	*30.6*	5.74	**36.3**	39.4	0.22	0.28	0.35	<0.02	0.2	0.3	1.31	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	05 Sep 2022	0382_MW112P_220905	Normal	NSW_0382_PFASOMP_20		0.25	*24.3*	4.36	**28.7**	31.3	0.16	0.3	0.31	<0.02	0.2	0.26	1.04	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
MW112P	05 Dec 2022	0382_MW112P_221205	Normal	NSW_0382_PFASOMP_20		0.15	*16.3*	3.68	**20**	21.5	0.12	0.23	0.16	<0.02	<0.1	0.12	0.66	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
MW112P	13 Mar 2023	0382_MW112P_230313	Normal	NSW_0382_PFASOMP_23		0.18	*18.7*	4.98	**23.7**	25.9	0.16	0.28	0.22	<0.02	0.1	0.16	1.04	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
MW112P	13 Mar 2023	0382_QC102_230313	Field_D	NSW_0382_PFASOMP_23		0.17	*17.2*	4.48	**21.7**	23.8	0.16	0.3	0.22	<0.02	0.1	0.17	0.96	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
MW112P	13 Mar 2023	0382_QC202_230313	Interlab_D	NSW_0382_PFASOMP_23		0.19	*13*	3.7	**17**	19	0.15	0.23	0.16	<0.02	0.1	0.2	0.84	0.07	<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
MW112P	13 Jun 2023	0382_MW112P_230613	Normal	NSW_0382_PFASOMP_23		0.3	*27.7*	4.55	**32.2**	35	0.2	0.32	0.38	<0.02	0.2	0.22	1.02	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
MW112P	11 Sep 2023	0382_MW112P_230911	Normal	NSW_0382_PFASOMP_23		0.23	*22.5*	2.84	**25.3**	27.5	0.18	0.24	0.3	<0.02	0.1	0.2	0.82	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	28 Mar 2018	0382_MW113_180328	Normal	NSW_0382_PFAS		**3.7**	*46*	74	**120**	169.15	11	13	3	<0.01	1.2	2.1	13	1.9	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW113	01 Oct 2020	0382_MW113_201001	Normal	NSW_0382_PFASOMP_20		**15.7**	*194*	284	**478**	681	36.2	46.6	29.6	0.17	4.4	8.81	53	7.59	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	03 Dec 2020	0382_MW113_201203	Normal	NSW_0382_PFASOMP_20		**11.8**	*108*	162	**270**	413	27.3	38.9	9.7	0.05	4.2	6.48	38	6.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	03 Dec 2020	0382_QC100_201203	Field_D	NSW_0382_PFASOMP_20		**12.4**	*122*	165	**287**	437	29	40.5	10.6	0.05	4.2	6.4	39.8	6.11	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.64	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T4 - 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	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 95%							*220*	*0.13*																													
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																	
MW113	03 Dec 2020	0382_QC200_201203	Interlab_D	NSW_0382_PFASOMP_20			**8.2**	*97*	180	**277**	-	22	21	6.2	<0.01	3.4	6.1	31	4.2	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.54	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.01	<0.05
MW113	25 Mar 2021	0382_MW113_210325	Normal	NSW_0382_PFASOMP_20			**7.56**	*247*	89	**336**	417	10.4	12.5	5.91	0.54	3.7	9.56	20.8	3.77	0.56	0.06	<0.02	<0.02	<0.02	<0.05	<0.05	5.68	0.1	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	07 Jun 2021	0382_MW113_210607	Normal	NSW_0382_PFASOMP_20			**17.8**	*219*	269	**488**	711	38.4	51.1	26.6	0.16	4.8	10	63	9.13	0.16	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.7	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	07 Sep 2021	0382_MW113_210907	Normal	NSW_0382_PFASOMP_20			**10**	*205*	252	**457**	650	36	56.4	22.7	0.07	4.9	8.76	46.4	7.12	0.1	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.83	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	06 Dec 2021	0382_MW113_211206	Normal	NSW_0382_PFASOMP_20			**15.2**	*183*	266	**449**	656	43	46.6	20.4	0.08	4.5	9.43	58.9	7.81	0.1	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.16	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	06 Dec 2021	0382_QC100_211206	Field_D	NSW_0382_PFASOMP_20			**14.6**	*182*	262	**444**	644	39.8	45.1	20	0.09	4.7	8.74	58.4	7.42	0.08	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.15	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	23 Mar 2022	0382_MW113_220323	Normal	NSW_0382_PFASOMP_20			**10.6**	*1,240*	140	**1,380**	1,500	11.2	14.4	10.3	0.24	4.6	16.5	30	4.34	1.13	0.12	<0.04	<0.04	<0.04	<0.10	<0.05	17.8	0.09	<0.05	0.05	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	15 Jun 2022	0382_MW113_220615	Normal	NSW_0382_PFASOMP_20			**14.9**	*580*	200	**780**	946	20.3	27	17.8	0.32	5.2	16.8	38.7	6.66	1.07	0.08	<0.05	<0.05	<0.05	<0.12	<0.05	16.6	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	05 Sep 2022	0382_MW113_220905	Normal	NSW_0382_PFASOMP_20			**14.2**	*336*	184	**520**	683	21.7	40.9	21	0.17	4.2	12.3	34.1	6.24	0.42	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	7.76	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	05 Sep 2022	0382_QC200_220905	Interlab_D	NSW_0382_PFASOMP_20			**13**	*260*	180	**440**	580	24	24	13	0.06	4.5	9.9	36	6.8	0.29	0.03	<0.02	<0.05	<0.1	<0.5	<0.01	7.6	0.03	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW113	05 Dec 2022	0382_MW113_221205	Normal	NSW_0382_PFASOMP_20			**17.2**	*389*	234	**623**	812	26.5	43.4	21.7	0.1	4.4	13.2	44.9	7.96	0.32	0.03	<0.02	<0.02	<0.02	<0.05	<0.05	9.22	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	05 Dec 2022	0382_QC100_221205	Field_D	NSW_0382_PFASOMP_20			**19.1**	*407*	234	**641**	847	29.6	47.7	24.2	0.08	4.2	14.6	48	8.18	0.34	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	9.81	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	13 Mar 2023	0382_MW113_230313	Normal	NSW_0382_PFASOMP_23			**24**	*403*	331	**734**	1,000	49.1	58.2	31.3	0.08	6.7	15.4	69.2	11.4	0.34	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	5.99	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	13 Jun 2023	0382_MW113_230613	Normal	NSW_0382_PFASOMP_23			**26.3**	*376*	384	**760**	1,040	51.5	58	34.7	0.1	7.6	15.3	70.8	11.8	0.17	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	5.63	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	11 Sep 2023	0382_MW113_230911	Normal	NSW_0382_PFASOMP_23			**22.3**	*329*	316	**645**	890	44.7	56.4	28.8	0.1	6.4	11.9	60.5	10.3	0.17	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	3.82	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	28 Mar 2018	0382_MW115_180328	Normal	NSW_0382_PFAS			**13**	*360*	180	**540**	663.1	21	30	14	<0.2	3.2	5.7	31	5.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW115	01 Oct 2020	0382_MW115_201001	Normal	NSW_0382_PFASOMP_20			**16.1**	*469*	218	**687**	850	20.1	38.4	28.2	<0.02	3.9	7.38	41.7	6.53	0.15	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.7	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	03 Dec 2020	0382_MW115_201203	Normal	NSW_0382_PFASOMP_20			**12**	*267*	133	**400**	505	16	20.9	13.4	<0.02	3.5	4.92	28.4	4.92	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.57	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	25 Mar 2021	0382_MW115_210325	Normal	NSW_0382_PFASOMP_20			**9.06**	*160*	113	**273**	356	13	16.2	8.63	<0.02	3.6	4.3	23.8	3.98	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.68	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	07 Jun 2021	0382_MW115_210607	Normal	NSW_0382_PFASOMP_20			**14.4**	*306*	178	**484**	611	17	28.1	17.5	<0.02	3.6	6.53	32.6	6.07	0.14	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.74	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	07 Sep 2021	0382_MW115_210907	Normal	NSW_0382_PFASOMP_20			**8.78**	*262*	162	**424**	538	17.5	27.6	14.9	<0.02	3.5	5.66	31.6	3.94	0.11	<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
MW115	06 Dec 2021	0382_MW115_211206	Normal	NSW_0382_PFASOMP_20			**10.4**	*210*	133	**343**	445	15.9	18.2	10.8	<0.04	3.2	5.08	32.8	4.61	0.12	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.6	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	23 Mar 2022	0382_MW115_220323	Normal	NSW_0382_PFASOMP_20			**11.2**	*281*	160	**441**	562	19.4	21.9	14.8	<0.04	3.4	5.98	38.2	5.36	0.16	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.87	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	15 Jun 2022	0382_MW115_220615	Normal	NSW_0382_PFASOMP_20			**15.7**	*358*	203	**561**	701	19.4	30.4	17.7	<0.05	3.8	7.03	38.2	6.3	0.16	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.94	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	05 Sep 2022	0382_MW115_220905	Normal	NSW_0382_PFASOMP_20			**12.7**	*341*	190	**531**	650	14.2	32.1	20.9	<0.05	3.2	5.46	24.7	4.79	0.13	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.75	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	05 Sep 2022	0382_QC100_220905	Field_D	NSW_0382_PFASOMP_20			**12.4**	*336*	194	**530**	641	15.1	26.6	14.5	<0.05	3.1	5.72	28.1	5.02	0.14	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.66	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW117	01 May 2018	0382_MW117_180501	Normal	NSW_0382_PFAS			<0.01	0.06	0.02	**0.08**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	01 May 2018	0382_QC101_180501	Field_D	NSW_0382_PFAS			<0.01	0.06	0.02	**0.08**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	01 May 2018	0382_QC201_180501	Interlab_D	NSW_0382_PFAS			<0.01	0.04	<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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05
MW117	26 Mar 2021	0382_MW117_210326	Normal	NSW_0382_PFASOMP_20			<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
MW117	07 Sep 2021	0382_MW117_210907	Normal	NSW_0382_PFASOMP_20			<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
MW117	21 Mar 2022	0382_MW117_220321	Normal	NSW_0382_PFASOMP_20			<0.01	*0.14*	0.05	**0.19**	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	07 Sep 2022	0382_MW117_220907	Normal	NSW_0382_PFASOMP_20			0.04	*1.47*	0.48	**1.95**	2.16	<0.02	0.03	0.11	<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
MW117	14 Mar 2023	0382_MW117_230314	Normal	NSW_0382_PFASOMP_23			<0.01	*0.46*	0.06	**0.52**	0.55	<0.02	<0.02	0.03	<0.02	<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
MW117	12 Sep 2023	0382_MW117_230912	Normal	NSW_0382_PFASOMP_23			<0.01	*0.18*	0.02	**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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	12 Sep 2023	0382_QC102_230912	Field_D	NSW_0382_PFASOMP_23			<0.01	*0.14*	0.01	**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
MW117	12 Sep 2023	0382_QC202_230912	Interlab_D	NSW_0382_PFASOMP_23			<0.01	0.09	<0.01	**0.09**	0.09	<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
MW119	28 Mar 2018	0382_MW119_180328	Normal	NSW_0382_PFAS			0.08	*0.62*	1.9	**2.52**	4.26	0.42	0.58	0.03	<0.01	0.05	0.07	0.44	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	28 Mar 2018	0382_QC102_180328	Field_D	NSW_0382_PFAS			0.08	*0.62*	2.2	**2.82**	4.51	0.43	0.49	0.04	<0.01	0.05	0.07	0.46	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	01 Oct 2020	0382_MW119_201001	Normal	NSW_0382_PFASOMP_20			0.36	*18.6*	5.17	**23.8**	26.8	0.62	0.62	0.37	<0.02	<0.1	0.16	0.8	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	03 Dec 2020	0382_MW119_201203	Normal	NSW_0382_PFASOMP_20			0.1	*2.03*	1.04	**3.07**	3.98	0.19	0.19	0.06	<0.02	<0.1	0.06	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
MW119	25 Mar 2021	0382_MW119_210325	Normal	NSW_0382_PFASOMP_20			0.39	*24*	5.78	**29.8**	34.3	0.78	0.56	0.32	<0.02	0.4	0.43	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Jun 2021	0382_MW119_210607	Normal	NSW_0382_PFASOMP_20			0.4	*8.8*	3.59	**12.4**	16.8	0.81	0.55	0.15	<0.02	0.4	0.47	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Jun 2021	0382_QC100_210607	Field_D	NSW_0382_PFASOMP_20			0.4	*7.53*	3.41	**10.9**	15.3	0.78	0.53	0.14	<0.02	0.4	0.49	1.47	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Sep 2021	0382_MW119_210907	Normal	NSW_0382_PFASOMP_20			0.55	*8.84*	6.17	**15**	21.6	1.12	1.08	0.31	<0.02	0.46	0.59	2.28	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	06 Dec 2021	0382_MW119_211206	Normal	NSW_0382_PFASOMP_20			0.39	*7.43*	5.36	**12.8**	18.9	1.07	0.89	0.25	<0.02	0.4	0.46	2.4	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	23 Mar 2022	0382_MW119_220323	Normal	NSW_0382_PFASOMP_20			0.55	*32.8*	4.6	**37.4**	46.7	0.84	0.53	0.35	<0.02	2.2	1.63	3	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	15 Jun 2022	0382_MW119_220615	Normal	NSW_0382_PFASOMP_20			**0.63**	*27.3*	6.5	**33.8**	42.2	0.77	0.7	0.42	<0.02	1.4	1.31	2.91	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	05 Sep 2022	0382_MW119_220905	Normal	NSW_0382_PFASOMP_20			0.37	*21.3*	4.62	**25.9**	31.8	0.49	0.67	0.32	<0.02	0.9	0.89	2	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

Table T4 - 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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW119	05 Dec 2022	0382_MW119_221205	Normal	NSW_0382_PFASOMP_20		0.47	*26.2*	7.96	**34.2**	40.9	0.8	1.31	0.43	<0.02	0.6	0.71	2.17	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Mar 2023	0382_MW119_230313	Normal	NSW_0382_PFASOMP_23		**0.86**	*33.8*	13.7	**47.5**	58.9	1.79	2.04	0.64	<0.02	0.8	1.04	3.72	0.52	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_MW119_230613	Normal	NSW_0382_PFASOMP_23		**0.82**	*32.5*	13.6	**46.1**	56.5	1.51	2.17	0.75	<0.02	0.7	0.82	3.23	0.44	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_QC101_230613	Field_D	NSW_0382_PFASOMP_23		**0.79**	*30*	12.8	**42.8**	52.9	1.47	2.01	0.68	<0.02	0.7	0.82	3.17	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_QC201_230613	Interlab_D	NSW_0382_PFASOMP_23		**0.6**	*24*	9.6	**33**	41	1.2	1.5	0.44	<0.02	0.52	0.63	2.6	0.34	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
MW119	11 Sep 2023	0382_MW119_230911	Normal	NSW_0382_PFASOMP_23		**0.59**	*28*	8.16	**36.2**	43.5	1.16	1.44	0.62	<0.02	0.4	0.58	2.24	0.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	28 Mar 2018	0382_MW119_P_180328	Normal	NSW_0382_PFAS		**1.6**	*30*	16	**46**	60.25	2.2	3.9	2	<0.01	0.33	0.48	3.3	0.44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119P	01 Oct 2020	0382_MW119_P_201001	Normal	NSW_0382_PFASOMP_20		**1.22**	*4.32*	34.8	**39.1**	65.1	4	5.55	1.26	<0.02	0.7	1.73	10.4	1.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	03 Dec 2020	0382_MW119_P_201203	Normal	NSW_0382_PFASOMP_20		0.4	*2.65*	10.3	**13**	22.5	1.53	2.76	0.3	<0.02	0.4	0.59	3.16	0.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	25 Mar 2021	0382_MW119_P_210325	Normal	NSW_0382_PFASOMP_20		0.4	*1.89*	10.3	**12.2**	20.5	1.61	1.93	0.27	<0.02	0.3	0.51	2.95	0.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	07 Jun 2021	0382_MW119P_210607	Normal	NSW_0382_PFASOMP_20		**5.4**	*51.6*	114	**166**	277	16.3	26	6.42	<0.02	1.8	6.24	44.4	4.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.38	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	07 Sep 2021	0382_MW119P_210907	Normal	NSW_0382_PFASOMP_20		**6.4**	*69.5*	156	**226**	316	13.4	23.8	6.64	<0.02	1.35	4.32	29.5	4.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.42	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	06 Dec 2021	0382_MW119P_211206	Normal	NSW_0382_PFASOMP_20		**6.06**	*52.5*	130	**182**	250	9.3	15.4	7.23	<0.04	1	2.6	22.6	3.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.44	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	23 Mar 2022	0382_MW119P_220323	Normal	NSW_0382_PFASOMP_20		**9.02**	*156*	176	**332**	418	13.2	18.3	14.3	<0.04	1	2.48	23.9	3.58	0.05	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.4	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	15 Jun 2022	0382_MW119P_220615	Normal	NSW_0382_PFASOMP_20		**13.4**	*200*	257	**457**	584	16.2	33.4	24	<0.05	1.6	3.54	28.8	5.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.32	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	05 Sep 2022	0382_MW119P_220905	Normal	NSW_0382_PFASOMP_20		**14.6**	*191*	247	**438**	562	13.7	36	31.5	<0.05	1.1	2.68	19	4.72	0.06	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.24	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	05 Dec 2022	0382_MW119P_221205	Normal	NSW_0382_PFASOMP_20		**11.6**	*206*	194	**400**	496	11.5	24.8	20.8	<0.02	0.8	2.5	19.9	3.84	0.04	<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
MW119P	13 Mar 2023	0382_MW119P_230313	Normal	NSW_0382_PFASOMP_23		**6.16**	*230*	91	**321**	365	5.18	8.72	9.38	<0.05	0.9	1.53	10.3	1.92	0.08	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.18	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	13 Jun 2023	0382_MW119P_230613	Normal	NSW_0382_PFASOMP_23		**4.37**	*178*	55.2	**233**	261	2.94	5.09	6.43	<0.02	0.5	1	6.24	1.17	0.06	<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
MW119P	11 Sep 2023	0382_MW119P_230911	Normal	NSW_0382_PFASOMP_23		**4.72**	*149*	55.6	**205**	240	5	7.85	6.99	<0.02	0.6	1.31	7.72	1.45	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.15	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW120	14 Mar 2018	0382_MW120_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW120	01 Oct 2020	0382_MW120_201001	Normal	NSW_0382_PFASOMP_20		<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
MW120	25 Mar 2021	0382_MW120_210325	Normal	NSW_0382_PFASOMP_20		<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
MW120	06 Sep 2021	0382_MW120_210906	Normal	NSW_0382_PFASOMP_20		<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
MW120	21 Mar 2022	0382_MW120_220321	Normal	NSW_0382_PFASOMP_20		<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
MW120	06 Sep 2022	0382_MW120_220906	Normal	NSW_0382_PFASOMP_20		<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
MW120	14 Mar 2023	0382_MW120_230314	Normal	NSW_0382_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
MW120	12 Sep 2023	0382_MW120_230912	Normal	NSW_0382_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
MW121	14 Mar 2018	0382_MW121_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14 Mar 2018	0382_QC101_180314	Field_D	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14 Mar 2018	0382_QC201_180314	Interlab_D	NSW_0382_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
MW121	01 Oct 2020	0382_MW121_201001	Normal	NSW_0382_PFASOMP_20		<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
MW121	01 Oct 2020	0382_QC202_201001	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW121	25 Mar 2021	0382_MW121_210325	Normal	NSW_0382_PFASOMP_20		<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
MW121	06 Sep 2021	0382_MW121_210906	Normal	NSW_0382_PFASOMP_20		<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
MW121	21 Mar 2022	0382_MW121_220321	Normal	NSW_0382_PFASOMP_20		<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	06 Sep 2022	0382_MW121_220906	Normal	NSW_0382_PFASOMP_20		<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	14 Mar 2023	0382_MW121_230314	Normal	NSW_0382_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
MW121	12 Sep 2023	0382_MW121_230912	Normal	NSW_0382_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
MW122	14 Mar 2018	0382_MW122_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW122	01 Oct 2020	0382_MW122_201001	Normal	NSW_0382_PFASOMP_20		<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
MW122	26 Mar 2021	0382_MW122_210326	Normal	NSW_0382_PFASOMP_20		<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
MW122	06 Sep 2022	0382_MW122_220906	Normal	NSW_0382_PFASOMP_20		<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
MW122	14 Mar 2023	0382_MW122_230314	Normal	NSW_0382_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
MW122	12 Sep 2023	0382_MW122_230912	Normal	NSW_0382_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
MW123	15 Mar 2018	0382_MW123_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW123	01 Oct 2020	0382_MW123_201001	Normal	NSW_0382_PFASOMP_20		<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
MW123	24 Mar 2021	0382_MW123_210324	Normal	NSW_0382_PFASOMP_20		<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
MW123	06 Sep 2021	0382_MW123_210906	Normal	NSW_0382_PFASOMP_20		<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 T4 - 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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW123	06 Sep 2021	0382_QC201_210906	Interlab_D	NSW_0382_PFASOMP_20		<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
MW123	22 Mar 2022	0382_MW123_220322	Normal	NSW_0382_PFASOMP_20		<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
MW123	22 Mar 2022	0382_QC102_220322	Field_D	NSW_0382_PFASOMP_20		<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
MW123	06 Sep 2022	0382_MW123_220906	Normal	NSW_0382_PFASOMP_20		<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
MW123	15 Mar 2023	0382_MW123_230315	Normal	NSW_0382_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
MW123	13 Sep 2023	0382_MW123_230913	Normal	NSW_0382_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	15 Mar 2018	0382_MW124_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	0.02	0.02	<0.1	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	01 Oct 2020	0382_MW124_201001	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<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
MW124	24 Mar 2021	0382_MW124_210324	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	0.02	0.02	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
MW124	06 Sep 2021	0382_MW124_210906	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	06 Sep 2021	0382_MW124_210906	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.02	<0.02	<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	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW124	22 Mar 2022	0382_MW124_220322	Normal	NSW_0382_PFASOMP_20		<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	07 Sep 2022	0382_MW124_220907	Normal	NSW_0382_PFASOMP_20		<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	15 Mar 2023	0382_MW124_230315	Normal	NSW_0382_PFASOMP_23		<0.01	<0.01	<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
MW124	13 Sep 2023	0382_MW124_230913	Normal	NSW_0382_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.08	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
MW129	17 Jul 2018	0382_MW129_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW129	01 Oct 2020	0382_MW129_201001	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	<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
MW129	03 Dec 2020	0382_MW129_201203	Normal	NSW_0382_PFASOMP_20		<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
MW129	25 Mar 2021	0382_MW129_210325	Normal	NSW_0382_PFASOMP_20		<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
MW129	07 Jun 2021	0382_MW129_210607	Normal	NSW_0382_PFASOMP_20		<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
MW129	07 Sep 2021	0382_MW129_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	0.02	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	06 Dec 2021	0382_MW129_211206	Normal	NSW_0382_PFASOMP_20		<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
MW129	23 Mar 2022	0382_MW129_220323	Normal	NSW_0382_PFASOMP_20		<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
MW129	15 Jun 2022	0382_MW129_220615	Normal	NSW_0382_PFASOMP_20		<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
MW129	05 Sep 2022	0382_MW129_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	<0.01	0.03	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
MW129	05 Dec 2022	0382_MW129_221205	Normal	NSW_0382_PFASOMP_20		<0.01	0.05	0.01	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
MW129	13 Mar 2023	0382_MW129_230313	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.02	**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
MW129	13 Jun 2023	0382_MW129_230613	Normal	NSW_0382_PFASOMP_23		<0.01	0.04	<0.01	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	11 Sep 2023	0382_MW129_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.02	**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
MW130	17 Jul 2018	0382_MW130_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	0.02	0.02	<0.1	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW130	01 Oct 2020	0382_MW130_201001	Normal	NSW_0382_PFASOMP_20		<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
MW130	03 Dec 2020	0382_MW130_201203	Normal	NSW_0382_PFASOMP_20		<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
MW130	25 Mar 2021	0382_MW130_210325	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Jun 2021	0382_MW130_210607	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Sep 2021	0382_MW130_210907	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Sep 2021	0382_QC103_210907	Field_D	NSW_0382_PFASOMP_20		<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
MW130	06 Dec 2021	0382_MW130_211206	Normal	NSW_0382_PFASOMP_20		<0.01	0.11	0.07	**0.18**	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	23 Mar 2022	0382_MW130_220323	Normal	NSW_0382_PFASOMP_20		<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
MW130	15 Jun 2022	0382_MW130_220615	Normal	NSW_0382_PFASOMP_20		<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
MW130	15 Jun 2022	0382_QC100_220615	Field_D	NSW_0382_PFASOMP_20		<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
MW130	05 Sep 2022	0382_MW130_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	0.04	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
MW130	05 Sep 2022	0382_QC101_220905	Field_D	NSW_0382_PFASOMP_20		<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
MW130	05 Dec 2022	0382_MW130_221205	Normal	NSW_0382_PFASOMP_20		<0.01	0.1	0.04	**0.14**	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	05 Dec 2022	0382_QC200_221205	Interlab_D	NSW_0382_PFASOMP_20		<0.01	*0.16*	0.07	**0.24**	0.27	0.02	0.02	<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
MW130	13 Mar 2023	0382_MW130_230313	Normal	NSW_0382_PFASOMP_23		0.01	0.05	0.06	**0.11**	0.19	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
MW130	13 Jun 2023	0382_MW130_230613	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.05	**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
MW130	13 Jun 2023	0382_QC100_230613	Field_D	NSW_0382_PFASOMP_23		<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
MW130	13 Jun 2023	0382_QC200_230613	Interlab_D	NSW_0382_PFASOMP_23		<0.01	<0.01	0.03	0.03	0.03	<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
MW130	11 Sep 2023	0382_MW130_230911	Normal	NSW_0382_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

Table T4 - 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	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 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
MW130	11 Sep 2023	0382_QC100_230911	Field_D	NSW_0382_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
MW130	11 Sep 2023	0382_QC200_230911	Interlab_D	NSW_0382_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
MW131	17 Jul 2018	0382_MW131_180717	Normal	NSW_0382_PFAS			<0.01	<0.01	0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW131	01 Oct 2020	0382_MW131_201001	Normal	NSW_0382_PFASOMP_20			<0.01	0.08	0.03	**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
MW131	03 Dec 2020	0382_MW131_201203	Normal	NSW_0382_PFASOMP_20			<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
MW131	25 Mar 2021	0382_MW131_210325	Normal	NSW_0382_PFASOMP_20			<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
MW131	07 Jun 2021	0382_MW131_210607	Normal	NSW_0382_PFASOMP_20			<0.01	0.06	<0.02	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
MW131	07 Jun 2021	0382_QC200_210607	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.078	<0.01	**0.078**	-	<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
MW131	07 Sep 2021	0382_MW131_210907	Normal	NSW_0382_PFASOMP_20			<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
MW131	06 Dec 2021	0382_MW131_211206	Normal	NSW_0382_PFASOMP_20			<0.01	0.03	0.01	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	06 Dec 2021	0382_QC200_211206	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.02	<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
MW131	23 Mar 2022	0382_MW131_220323	Normal	NSW_0382_PFASOMP_20			<0.01	0.06	0.02	**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
MW131	15 Jun 2022	0382_MW131_220615	Normal	NSW_0382_PFASOMP_20			<0.01	0.09	0.02	**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
MW131	05 Sep 2022	0382_MW131_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.02	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
MW131	05 Sep 2022	0382_QC201_220905	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.03	0.01	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
MW131	05 Dec 2022	0382_MW131_221205	Normal	NSW_0382_PFASOMP_20			<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
MW131	13 Mar 2023	0382_MW131_230313	Normal	NSW_0382_PFASOMP_23			0.01	*0.19*	0.04	**0.23**	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
MW131	13 Mar 2023	0382_QC100_230313	Field_D	NSW_0382_PFASOMP_23			<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
MW131	13 Mar 2023	0382_QC200_230313	Interlab_D	NSW_0382_PFASOMP_23			<0.01	0.1	0.03	**0.13**	0.14	<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
MW131	13 Jun 2023	0382_MW131_230613	Normal	NSW_0382_PFASOMP_23			<0.01	*0.4*	0.04	**0.44**	0.44	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	11 Sep 2023	0382_MW131_230911	Normal	NSW_0382_PFASOMP_23			<0.01	0.13	0.03	**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
MW133	07 Sep 2021	0382_MW133_210907	Normal	NSW_0382_PFASOMP_20			0.05	*4.06*	1.58	**5.64**	9.19	0.41	0.12	0.07	<0.02	0.6	0.45	1.81	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
MW133	06 Dec 2021	0382_MW133_211206	Normal	NSW_0382_PFASOMP_20			**2.88**	*168*	22	**190**	208	1.15	0.97	6.37	<0.04	1	0.92	4.82	0.36	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW133	23 Mar 2022	0382_MW133_220323	Normal	NSW_0382_PFASOMP_20			0.03	*2.59*	1.84	**4.43**	5.92	0.22	0.26	0.03	<0.02	0.1	0.29	0.53	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
MW133	15 Jun 2022	0382_MW133_220615	Normal	NSW_0382_PFASOMP_20			**4.8**	*765*	42.7	**808**	848	2.58	3.78	12.7	<0.05	1.6	2.54	10.9	0.84	0.07	<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
MW133	05 Sep 2022	0382_MW133_220905	Normal	NSW_0382_PFASOMP_20			**3.39**	*530*	31.3	**561**	588	1.32	2.71	10.7	<0.05	1.2	1.4	5.94	0.5	<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
MW133	05 Dec 2022	0382_MW133_221205	Normal	NSW_0382_PFASOMP_20			**2.69**	*1,030*	29.5	**1,060**	1,090	1.3	3.34	11.1	<0.02	0.9	1.44	7.76	0.43	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW133	13 Mar 2023	0382_MW133_230313	Normal	NSW_0382_PFASOMP_23			**4.12**	*666*	33.8	**700**	740	2.05	3.08	17.3	<0.05	1.7	2.08	8.92	0.69	0.1	<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
MW133	13 Jun 2023	0382_MW133_230613	Normal	NSW_0382_PFASOMP_23			**3.44**	*536*	32.2	**568**	600	1.78	2.53	13.3	<0.02	1.3	1.68	7.65	0.56	0.06	<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
MW133	11 Sep 2023	0382_MW133_230911	Normal	NSW_0382_PFASOMP_23			**3.51**	*587*	29.2	**616**	645	1.55	2.7	8.38	<0.02	1.3	1.88	9.09	0.56	0.06	<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
MW134	25 Mar 2021	0382_MW134P_210325	Normal	NSW_0382_PFASOMP_20			0.02	*0.41*	0.48	**0.89**	1.77	0.1	0.07	<0.02	0.07	0.2	0.16	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	25 Mar 2021	0382_QC200_210325	Interlab_D	NSW_0382_PFASOMP_20			0.018	*0.35*	0.38	**0.73**	-	0.085	0.062	<0.01	<0.01	0.17	0.13	0.17	0.011	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW134	07 Jun 2021	0382_MW134_210607	Normal	NSW_0382_PFASOMP_20			0.03	*0.44*	1.16	**1.6**	2.82	0.23	0.26	0.02	<0.02	0.1	0.16	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	15 Jun 2022	0382_MW134_220615	Normal	NSW_0382_PFASOMP_20			0.02	*0.52*	1.04	**1.56**	3.29	0.31	0.24	<0.02	<0.02	0.3	0.28	0.56	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	05 Sep 2022	0382_MW134_220905	Normal	NSW_0382_PFASOMP_20			0.02	*0.36*	0.95	**1.31**	2.92	0.22	0.23	<0.02	<0.02	0.3	0.29	0.55	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	05 Dec 2022	0382_MW134_221205	Normal	NSW_0382_PFASOMP_20			0.02	*0.29*	0.87	**1.16**	2.56	0.2	0.19	0.02	<0.02	0.2	0.25	0.52	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	13 Mar 2023	0382_MW134_230313	Normal	NSW_0382_PFASOMP_23			0.02	*0.32*	0.63	**0.95**	2.08	0.16	0.14	<0.02	<0.02	0.2	0.18	0.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	18 Dec 2020	0382_MW136_201218	Normal	NSW_0382_PFAS			<0.002	0.016	0.016	0.032	0.129	0.008	0.004	<0.002	<0.002	<0.01	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.082	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW136	07 Jun 2021	0382_MW136_210607	Normal	NSW_0382_PFASOMP_20			<0.01	0.11	0.04	**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
MW136	07 Sep 2021	0382_MW136_210907	Normal	NSW_0382_PFASOMP_20			<0.01	0.04	0.11	**0.15**	0.29	0.06	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
MW136	06 Dec 2021	0382_MW136_211206	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.08	**0.13**	0.24	0.06	0.03	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	23 Mar 2022	0382_MW136_220323	Normal	NSW_0382_PFASOMP_20			0.02	0.03	0.3	**0.33**	0.74	0.08	0.06	<0.02	<0.02	0.1	0.03	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15 Jun 2022	0382_MW136_220615	Normal	NSW_0382_PFASOMP_20			0.03	0.06	0.64	**0.7**	1.33	0.18	0.16	<0.02	<0.02	<0.1	0.05	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15 Jun 2022	0382_QC200_220615	Interlab_D	NSW_0382_PFASOMP_20			0.02	0.05	0.46	**0.51**	0.99	0.13	0.13	<0.01	<0.02	0.03	0.03	0.12	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
MW136	05 Sep 2022	0382_MW136_220905	Normal	NSW_0382_PFASOMP_20			0.01	0.08	0.32	**0.4**	0.63	0.07	0.08	<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
MW136	05 Dec 2022	0382_MW136_221205	Normal	NSW_0382_PFASOMP_20			<0.01	0.11	0.2	**0.31**	0.5	0.07	0.06	<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
MW136	13 Mar 2023	0382_MW136_230313	Normal	NSW_0382_PFASOMP_23			<0.01	0.09	0.16	**0.25**	0.42	0.06	0.05	<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
MW136	13 Jun 2023	0382_MW136_230613	Normal	NSW_0382_PFASOMP_23			0.01	*0.23*	0.15	**0.38**	0.55	0.07	0.05	<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
MW136	11 Sep 2023	0382_MW136_230911	Normal	NSW_0382_PFASOMP_23			<0.01	0.06	0.05	**0.11**	0.15	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 T4 - 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 95%						*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
MW301	19 Feb 2018	0382_MW1_180219	Normal	NSW_0382_PFAS		0.02	0.1	0.72	**0.82**	0.96	0.03	0.04	<0.01	<0.01	<0.05	0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW301	01 Oct 2020	0382_MW301_201001	Normal	NSW_0382_PFASOMP_20		0.01	*0.16*	0.09	**0.25**	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW301	26 Mar 2021	0382_MW301_210326	Normal	NSW_0382_PFASOMP_20		0.01	0.08	0.06	**0.14**	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
MW301	06 Sep 2021	0382_MW301_210906	Normal	NSW_0382_PFASOMP_20		<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
MW301	06 Sep 2021	0382_QC101_210906	Field_D	NSW_0382_PFASOMP_20		<0.01	0.07	0.05	**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
MW301	21 Mar 2022	0382_MW301_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	0.12	**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
MW301	06 Sep 2022	0382_MW301_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.09	**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
MW301	14 Mar 2023	0382_MW301_230314	Normal	NSW_0382_PFASOMP_23		<0.01	0.02	0.05	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
MW301	12 Sep 2023	0382_MW301_230912	Normal	NSW_0382_PFASOMP_23		<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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW323	16 Feb 2018	0382_BH345_180216	Normal	NSW_0382_PFAS		<0.01	0.09	<0.01	**0.09**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16 Feb 2018	0382_QC101_180216	Field_D	NSW_0382_PFAS		<0.01	0.09	<0.01	**0.09**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16 Feb 2018	0382_QC201_180216	Interlab_D	NSW_0382_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
MW323	01 Oct 2020	0382_MW323_201001	Normal	NSW_0382_PFASOMP_20		<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
MW323	24 Mar 2021	0382_MW323_210324	Normal	NSW_0382_PFASOMP_20		<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
MW323	06 Sep 2021	0382_MW323_210906	Normal	NSW_0382_PFASOMP_20		<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
MW323	22 Mar 2022	0382_MW323_220322	Normal	NSW_0382_PFASOMP_20		<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
MW323	22 Mar 2022	0382_QC101_220322	Field_D	NSW_0382_PFASOMP_20		<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
MW323	07 Sep 2022	0382_MW323_220907	Normal	NSW_0382_PFASOMP_20		<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
MW323	15 Mar 2023	0382_MW323_230315	Normal	NSW_0382_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
MW323	13 Sep 2023	0382_MW323_230913	Normal	NSW_0382_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
MW330	07 Feb 2018	0382_BH365_180207	Normal	NSW_0382_PFAS		**0.98**	0.05	44	**44.05**	82.22	3.4	7.7	0.49	<0.01	1.6	3.2	19	1.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_BH365_180227	Normal	NSW_0382_PFAS		**1.3**	0.03	40	**40.03**	63.81	1.7	5.1	0.48	<0.01	1.1	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_QC101_180227	Field_D	NSW_0382_PFAS		**1.3**	0.03	39	**39.03**	62.2	1.7	4.6	0.47	<0.01	1	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_QC201_180227	Interlab_D	NSW_0382_PFAS		**1.45**	0.04	25.8	**25.8**	44.3	1.11	3.13	0.4	<0.02	<0.1	1.23	10	1.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	22 Mar 2022	0382_MW330_220322	Normal	NSW_0382_PFASOMP_20		**3.9**	*3.78*	57.9	**61.7**	103	2.62	6.27	2.2	<0.02	1.1	3	20.4	1.56	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	22 Mar 2022	0382_QC202_220322	Interlab_D	NSW_0382_PFASOMP_20		**3.9**	*4.2*	63	**67**	110	2.1	6.4	2.9	<0.02	1.5	2.6	17	1.6	<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
MW330	05 Sep 2022	0382_MW330_220905	Normal	NSW_0382_PFASOMP_20		**3.24**	*10.3*	26.8	**37.1**	56.5	0.71	3.13	2.74	<0.02	0.5	1.1	7.3	0.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	14 Mar 2023	0382_MW330_230314	Normal	NSW_0382_PFASOMP_23		**8.38**	*23.4*	106	**129**	196	3.5	10.2	5.16	<0.02	2.2	4.78	29.3	2.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	12 Sep 2023	0382_MW330_230912	Normal	NSW_0382_PFASOMP_23		**4.79**	*17.6*	56.5	**74.1**	113	1.7	6.1	3.11	<0.02	1.2	2.78	17.4	1.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	12 Sep 2023	0382_QC103_230912	Field_D	NSW_0382_PFASOMP_23		**4.55**	*15.3*	54.4	**69.7**	108	1.86	7.06	2.85	<0.04	1.2	2.59	16.5	1.66	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW330	12 Sep 2023	0382_QC203_230912	Interlab_D	NSW_0382_PFASOMP_23		**5.1**	*14*	64	**77**	120	2.6	7.2	4.3	<0.02	1.6	3.1	18	1.9	<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
MW349	12 Feb 2018	0382_BH612_180212	Normal	NSW_0382_PFAS		0.01	0.1	0.2	**0.3**	0.41	0.02	0.03	0.02	<0.01	<0.05	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW349	01 Oct 2020	0382_MW349_201001	Normal	NSW_0382_PFASOMP_20		0.01	0.12	0.28	**0.4**	0.51	0.03	0.04	<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
MW349	24 Mar 2021	0382_MW349_210324	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.16	**0.22**	0.27	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
MW349	06 Sep 2021	0382_MW349_210906	Normal	NSW_0382_PFASOMP_20		<0.01	0.1	0.23	**0.33**	0.42	0.03	0.04	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW349	22 Mar 2022	0382_MW349_220322	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	0.06	**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
MW349	22 Mar 2022	0382_QC201_220322	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.06	**0.09**	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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW349	06 Sep 2022	0382_MW349_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.05	0.31	**0.36**	0.52	0.06	0.07	<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
MW349	15 Mar 2023	0382_MW349_230315	Normal	NSW_0382_PFASOMP_23		0.01	0.05	0.32	**0.37**	0.55	0.06	0.08	<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
MW349	13 Sep 2023	0382_MW349_230913	Normal	NSW_0382_PFASOMP_23		0.01	0.07	0.3	**0.37**	0.51	0.05	0.05	<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

Notes:

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

Table T5 - Historical 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						0.002	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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW001	15 Mar 2018	0382_SW001_180315	Normal	NSW_0382_PFAS		0.86	*3.9*	6.9	**10.8**	18.04	0.36	1	0.36	0.04	0.41	0.92	2.7	0.45	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW001	25 Mar 2021	0382_SW001_210325	Normal	NSW_0382_PFASOMP_20		0.03	*0.65*	0.58	1.23	1.62	0.04	0.04	<0.02	<0.02	<0.1	0.09	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Jun 2021	0382_SW001_210607	Normal	NSW_0382_PFASOMP_20		<0.01	0.13	0.06	0.19	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Sep 2021	0382_SW001_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.04	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
SW001	06 Dec 2021	0382_QC101_211206	Field_D	NSW_0382_PFASOMP_20		0.04	*0.72*	0.49	1.21	1.72	0.05	0.04	0.02	<0.02	<0.1	0.11	0.22	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
SW001	06 Dec 2021	0382_SW001_211206	Normal	NSW_0382_PFASOMP_20		0.05	*0.76*	0.5	1.26	1.8	0.06	0.04	0.02	<0.02	<0.1	0.12	0.22	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
SW001	23 Mar 2022	0382_SW001_220323	Normal	NSW_0382_PFASOMP_20		0.02	*0.27*	0.15	0.42	0.49	<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
SW001	15 Jun 2022	0382_SW001_220615	Normal	NSW_0382_PFASOMP_20		0.07	*2.06*	0.67	**2.73**	3.47	0.07	0.06	0.04	<0.02	<0.1	0.09	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	0.13	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Sep 2022	0382_SW001_220905	Normal	NSW_0382_PFASOMP_20		0.02	*0.87*	0.15	1.02	1.15	<0.02	<0.02	<0.02	0.03	<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	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Dec 2022	0382_SW001_221205	Normal	NSW_0382_PFASOMP_20		0.04	*1.04*	0.35	1.39	1.8	0.03	0.04	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	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	15 Mar 2023	0382_SW001_230315	Normal	NSW_0382_PFASOMP_23		0.01	*0.26*	0.12	0.38	0.45	<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
SW001	11 Sep 2023	0382_SW001_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.11	0.02	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
SW009	26 Sep 2017	0382_SW009_170926	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW009	30 Sep 2020	0382_QC101_200930	Field_D	NSW_0382_PFASOMP_20		0.01	*0.2*	0.28	0.48	0.66	0.05	0.05	<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
SW009	30 Sep 2020	0382_SW009_200930	Normal	NSW_0382_PFASOMP_20		0.01	*0.17*	0.25	0.42	0.57	0.04	0.04	<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
SW009	26 Mar 2021	0382_SW009_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.12	0.21	0.25	0.02	<0.02	<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
SW009	06 Sep 2021	0382_SW009_210906	Normal	NSW_0382_PFASOMP_20		0.01	0.13	0.18	0.31	0.44	0.03	0.04	<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
SW009	22 Mar 2022	0382_QC103_220322	Field_D	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	0.16	0.18	<0.02	<0.02	<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
SW009	22 Mar 2022	0382_SW009_220322	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	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
SW009	07 Sep 2022	0382_SW009_220907	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.09	0.18	0.21	<0.02	<0.02	<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
SW009	13 Mar 2023	0382_SW009_230313	Normal	NSW_0382_PFASOMP_23		0.01	*0.19*	0.13	0.32	0.36	<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
SW009	11 Sep 2023	0382_SW009_230911	Normal	NSW_0382_PFASOMP_23		0.01	*0.16*	0.13	0.29	0.34	<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
SW011	27 Sep 2017	0382_SW011_170927	Normal	NSW_0382_PFAS		<0.01	0.04	0.03	0.07	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW011	30 Sep 2020	0382_SW011_200930	Normal	NSW_0382_PFASOMP_20		<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
SW011	26 Mar 2021	0382_SW011_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.08	0.08	0.16	0.2	0.04	<0.02	<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
SW011	08 Sep 2021	0382_SW011_210908	Normal	NSW_0382_PFASOMP_20		<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
SW011	21 Mar 2022	0382_SW011_220321	Normal	NSW_0382_PFASOMP_20		0.16	*0.24*	3.28	**3.52**	4.77	0.11	0.18	0.03	<0.02	<0.1	0.1	0.6	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
SW011	06 Sep 2022	0382_SW011_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.1	0.22	0.25	<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
SW011	15 Mar 2023	0382_SW011_230315	Normal	NSW_0382_PFASOMP_23		0.01	0.07	0.07	0.14	0.17	<0.02	<0.02	<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
SW011	12 Sep 2023	0382_SW011_230912	Normal	NSW_0382_PFASOMP_23		<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
SW012	27 Sep 2017	0382_SW012_170927	Normal	NSW_0382_PFAS		<0.01	0.02	0.02	0.04	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW012	30 Sep 2020	0382_SW012_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	06 Sep 2021	0382_SW012_210906	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	21 Mar 2022	0382_SW012_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.06	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
SW012	06 Sep 2022	0382_SW012_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.1	0.22	0.25	<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
SW012	14 Mar 2023	0382_SW012_230314	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.02	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
SW012	12 Sep 2023	0382_SW012_230912	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.02	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
SW014	27 Sep 2017	0382_SW014_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW014	30 Sep 2020	0382_QC100_200930	Field_D	NSW_0382_PFASOMP_20		<0.01	0.04	0.03	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
SW014	30 Sep 2020	0382_SW014_200930	Normal	NSW_0382_PFASOMP_20		<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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	26 Mar 2021	0382_SW014_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	<0.02	0.02	0.07	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
SW014	08 Sep 2021	0382_SW014_210908	Normal	NSW_0382_PFASOMP_20		<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
SW014	22 Mar 2022	0382_SW014_220322	Normal	NSW_0382_PFASOMP_20		<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
SW014	07 Sep 2022	0382_SW014_220907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.06	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
SW014	15 Mar 2023	0382_SW014_230315	Normal	NSW_0382_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
SW015	26 Sep 2017	0382_SW015_170926	Normal	NSW_0382_PFAS		0.01	0.07	0.08	0.15	-	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW015	30 Sep 2020	0382_SW015_200930	Normal	NSW_0382_PFASOMP_20		<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
SW015	25 Mar 2021	0382_QC101_210325	Field_D	NSW_0382_PFASOMP_20		<0.01	0.02	0.02	0.04	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
SW015	25 Mar 2021	0382_SW015_210325	Normal	NSW_0382_PFASOMP_20		<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

Table T5 - Historical 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						0.002	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 95%						*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
SW015	08 Sep 2021	0382_SW015_210908	Normal	NSW_0382_PFASOMP_20		<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
SW015	22 Mar 2022	0382_QC203_220322	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	0.08	0.08	<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
SW015	22 Mar 2022	0382_SW015_220322	Normal	NSW_0382_PFASOMP_20		<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
SW015	07 Sep 2022	0382_SW015_220907	Normal	NSW_0382_PFASOMP_20		<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
SW015	13 Mar 2023	0382_SW015_230313	Normal	NSW_0382_PFASOMP_23		0.01	0.07	0.08	0.15	0.18	<0.02	<0.02	<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
SW015	11 Sep 2023	0382_SW015_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.05	0.03	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
SW017	27 Sep 2017	0382_SW017_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW017	30 Sep 2020	0382_SW017_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.11	0.04	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
SW017	26 Mar 2021	0382_QC201_210326	Interlab_D	NSW_0382_PFASOMP_20		<0.01	<0.02	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	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW017	26 Mar 2021	0382_SW017_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.02	0.05	0.08	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
SW017	08 Sep 2021	0382_SW017_210908	Normal	NSW_0382_PFASOMP_20		<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
SW017	21 Mar 2022	0382_SW017_220321	Normal	NSW_0382_PFASOMP_20		<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
SW017	06 Sep 2022	0382_SW017_220906	Normal	NSW_0382_PFASOMP_20		<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
SW017	14 Mar 2023	0382_SW017_230314	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.06	0.12	0.14	<0.02	<0.02	<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
SW017	12 Sep 2023	0382_SW017_230912	Normal	NSW_0382_PFASOMP_23		<0.01	0.04	0.03	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
SW025	15 Jun 2016	HBK-QA01	Normal	ACTNSW_Hist_202009-2		<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-
SW025	15 Jun 2016	HBK-SW001	Normal	ACTNSW_Hist_202009-2		<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
SW025	26 Sep 2017	0382_SW025_170926	Normal	NSW_0382_PFAS		<0.01	0.02	<0.01	0.02	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW025	30 Sep 2020	0382_SW025_200930	Normal	NSW_0382_PFASOMP_20		<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
SW025	25 Mar 2021	0382_SW025_210325	Normal	NSW_0382_PFASOMP_20		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
SW025	08 Sep 2021	0382_SW025_210908	Normal	NSW_0382_PFASOMP_20		<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
SW025	22 Mar 2022	0382_SW025_220322	Normal	NSW_0382_PFASOMP_20		<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
SW025	05 Sep 2022	0382_QC103_220905	Field_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW025	05 Sep 2022	0382_SW025_220905	Normal	NSW_0382_PFASOMP_20		<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
SW025	13 Mar 2023	0382_SW025_230313	Normal	NSW_0382_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
SW025	11 Sep 2023	0382_SW025_230911	Normal	NSW_0382_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
SW030	09 Mar 2018	0382_SW030_180309	Normal	NSW_0382_PFAS		<0.01	0.03	0.07	0.1	0.16	0.01	0.01	<0.01	<0.01	<0.05	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW030	30 Sep 2020	0382_SW030_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.11	0.14	0.14	<0.02	<0.02	<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
SW030	24 Mar 2021	0382_SW030_210324	Normal	NSW_0382_PFASOMP_20		0.04	*0.78*	0.79	1.57	2.19	0.1	0.09	0.03	<0.02	<0.1	0.08	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW030	07 Sep 2021	0382_QC102_210907	Field_D	NSW_0382_PFASOMP_20		0.07	*1.58*	2.72	**4.3**	5.59	0.31	0.4	0.11	<0.02	<0.1	0.03	0.33	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
SW030	07 Sep 2021	0382_SW030_210907	Normal	NSW_0382_PFASOMP_20		0.07	*1.52*	2.66	**4.18**	5.45	0.29	0.4	0.1	<0.02	<0.1	0.04	0.33	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
SW030	22 Mar 2022	0382_QC200_220322	Interlab_D	NSW_0382_PFASOMP_20		0.03	*0.83*	0.58	1.4	1.9	0.06	0.07	0.03	<0.02	0.05	0.06	0.2	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
SW030	22 Mar 2022	0382_SW030_220322	Normal	NSW_0382_PFASOMP_20		0.04	*0.74*	0.47	1.21	1.7	0.07	0.06	0.02	<0.02	<0.1	0.08	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
SW030	15 Mar 2023	0382_SW030_230315	Normal	NSW_0382_PFASOMP_23		0.02	*0.8*	0.92	1.72	2.1	0.1	0.11	0.03	<0.02	<0.1	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW038	08 Mar 2018	0382_SW038_180308	Normal	NSW_0382_PFAS		0.01	*0.32*	0.22	0.54	0.65	0.02	0.03	<0.01	<0.01	<0.05	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW038	24 Mar 2021	0382_SW038_210324	Normal	NSW_0382_PFASOMP_20		0.03	*0.46*	0.53	0.99	1.42	0.06	0.05	0.02	<0.02	<0.1	0.12	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
SW038	06 Sep 2021	0382_QC100_210906	Field_D	NSW_0382_PFASOMP_20		<0.01	*0.19*	0.25	0.44	0.55	0.03	0.04	<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
SW038	06 Sep 2021	0382_SW038_210906	Normal	NSW_0382_PFASOMP_20		<0.01	*0.21*	0.26	0.47	0.58	0.03	0.04	<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
SW038	22 Mar 2022	0382_QC100_220322	Field_D	NSW_0382_PFASOMP_20		0.01	*0.2*	0.17	0.37	0.45	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
SW038	22 Mar 2022	0382_SW038_220322	Normal	NSW_0382_PFASOMP_20		0.01	*0.25*	0.16	0.41	0.53	0.02	0.02	<0.02	<0.02	<0.1	0.03	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
SW038	07 Sep 2022	0382_SW038_220907	Normal	NSW_0382_PFASOMP_20		0.02	*0.44*	0.46	0.9	1.16	0.05	0.06	<0.02	<0.02	<0.1	0.03	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW038	15 Mar 2023	0382_SW038_230315	Normal	NSW_0382_PFASOMP_23		<0.01	*0.2*	0.21	0.41	0.51	0.03	0.03	<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
SW059	01 Mar 2018	0382_SW059_180301	Normal	NSW_0382_PFAS		0.02	0.07	0.06	0.13	0.18	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW059	30 Sep 2020	0382_SW059_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.07	0.18	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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	03 Dec 2020	0382_SW059_201203	Normal	NSW_0382_PFASOMP_20		0.02	0.08	0.05	0.13	0.18	<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
SW059	25 Mar 2021	0382_SW059_210325	Normal	NSW_0382_PFASOMP_20		0.01	0.11	0.07	0.18	0.22	<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
SW059	07 Jun 2021	0382_QC101_210607	Field_D	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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
SW059	07 Jun 2021	0382_QC201_210607	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.069	0.044	0.113	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.019	<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
SW059	07 Jun 2021	0382_SW059_210607	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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

Table T5 - Historical 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	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 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW059	07 Sep 2021	0382_QC203_210907	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.05	0.04	0.09	0.09	<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
SW059	07 Sep 2021	0382_SW059_210907	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	06 Dec 2021	0382_QC201_211206	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.07	0.04	0.11	0.13	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW059	06 Dec 2021	0382_SW059_211206	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	23 Mar 2022	0382_SW059_220323	Normal	NSW_0382_PFASOMP_20			0.01	*0.15*	0.06	0.21	0.24	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	15 Jun 2022	0382_QC101_220615	Field_D	NSW_0382_PFASOMP_20			0.02	0.13	0.14	0.27	0.36	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	15 Jun 2022	0382_SW059_220615	Normal	NSW_0382_PFASOMP_20			0.02	*0.16*	0.16	0.32	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Sep 2022	0382_QC102_220905	Field_D	NSW_0382_PFASOMP_20			0.01	0.06	0.04	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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Sep 2022	0382_SW059_220905	Normal	NSW_0382_PFASOMP_20			0.01	0.06	0.05	0.11	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Dec 2022	0382_QC101_221205	Field_D	NSW_0382_PFASOMP_20			<0.01	0.09	0.05	0.14	0.16	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Dec 2022	0382_SW059_221205	Normal	NSW_0382_PFASOMP_20			<0.01	0.1	0.05	0.15	0.17	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	13 Mar 2023	0382_QC101_230313	Field_D	NSW_0382_PFASOMP_23			<0.01	0.06	0.04	0.1	0.13	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	13 Mar 2023	0382_QC201_230313	Interlab_D	NSW_0382_PFASOMP_23			0.02	0.07	0.05	0.13	0.21	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	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
SW059	13 Mar 2023	0382_SW059_230313	Normal	NSW_0382_PFASOMP_23			0.01	0.08	0.05	0.13	0.21	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	13 Jun 2023	0382_SW059_230613	Normal	NSW_0382_PFASOMP_23			0.01	0.08	0.07	0.15	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	11 Sep 2023	0382_QC101_230911	Field_D	NSW_0382_PFASOMP_23			<0.01	0.03	0.03	0.06	0.08	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	11 Sep 2023	0382_QC201_230911	Interlab_D	NSW_0382_PFASOMP_23			<0.01	0.03	0.03	0.06	0.09	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW059	11 Sep 2023	0382_SW059_230911	Normal	NSW_0382_PFASOMP_23			<0.01	0.05	0.03	0.08	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	05 Mar 2018	0382_SW062_180305	Normal	NSW_0382_PFAS			0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW062	30 Sep 2020	0382_SW062_200930	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	08 Sep 2021	0382_SW062_210908	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	22 Mar 2022	0382_SW062_220322	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	05 Sep 2022	0382_QC203_220905	Interlab_D	NSW_0382_PFASOMP_20			<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
SW062	05 Sep 2022	0382_SW062_220905	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	13 Mar 2023	0382_SW062_230313	Normal	NSW_0382_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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	11 Sep 2023	0382_SW062_230911	Normal	NSW_0382_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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	18 Apr 2018	0382_SW063_180418	Normal	NSW_0382_PFAS			<0.01	0.01	<0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW063	08 Sep 2021	0382_SW063_210908	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	21 Mar 2022	0382_SW063_220321	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	07 Sep 2022	0382_SW063_220907	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	14 Mar 2023	0382_QC103_230314	Field_D	NSW_0382_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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	14 Mar 2023	0382_QC203_230314	Interlab_D	NSW_0382_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
SW063	14 Mar 2023	0382_SW063_230314	Normal	NSW_0382_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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	12 Sep 2023	0382_SW063_230912	Normal	NSW_0382_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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	15 Jun 2018	0382_QC102_180615	Field_D	NSW_0382_PFAS			<0.01	*0.22*	0.07	0.29	0.31	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	15 Jun 2018	0382_QC202_180615	Interlab_D	NSW_0382_PFAS			<0.01	*0.16*	0.07	0.23	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	15 Jun 2018	0382_SW103_180615	Normal	NSW_0382_PFAS			<0.05	*0.21*	0.08	0.29	0.31	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	30 Sep 2020	0382_QC201_200930	Interlab_D	NSW_0382_PFASOMP_20			0.019	0.1	0.022	0.122	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	0.11	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW103	30 Sep 2020	0382_SW103_200930	Normal	NSW_0382_PFASOMP_20			0.02	*0.15*	0.03	0.18	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	24 Mar 2021	0382_SW103_210324	Normal	NSW_0382_PFASOMP_20			<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	07 Sep 2021	0382_QC202_210907	Interlab_D	NSW_0382_PFASOMP_20			0.02	*0.15*	0.07	0.21	0.33	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	0.03	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	0.04	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW103	07 Sep 2021	0382_SW103_210907	Normal	NSW_0382_PFASOMP_20			0.01	*0.15*	0.06	0.21	0.3	0.05	<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
SW103	21 Mar 2022	0382_SW103_220321	Normal	NSW_0382_PFASOMP_20			<0.01	0.04	0.02	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
SW103	05 Sep 2022	0382_SW103_220905	Normal	NSW_0382_PFASOMP_20			<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
SW103	14 Mar 2023	0382_SW103_230314	Normal	NSW_0382_PFASOMP_23			<0.01	0.1	0.06	0.16	0.18	<0.02	<0.02	<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
SW103	12 Sep 2023	0382_SW103_230912	Normal	NSW_0382_PFASOMP_23			<0.01	0.06	0.1	0.16	0.23	0.04	<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
SW104	15 Jun 2018	0382_SW104_180615	Normal	NSW_0382_PFAS			<0.05	*0.15*	0.07	0.22	0.23	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW104	30 Sep 2020	0382_SW104_200930	Normal	NSW_0382_PFASOMP_20			0.02	0.08	0.02	0.1	0.27	<0.02	<0.02	<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	0.15	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	24 Mar 2021	0382_SW104_210324	Normal	NSW_0382_PFASOMP_20			<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

Table T5 - Historical 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	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 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW104	07 Sep 2021	0382_SW104_210907	Normal	NSW_0382_PFASOMP_20			<0.01	0.07	0.03	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
SW104	21 Mar 2022	0382_SW104_220321	Normal	NSW_0382_PFASOMP_20			<0.01	0.03	0.02	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
SW104	05 Sep 2022	0382_SW104_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.08	0.04	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
SW104	14 Mar 2023	0382_SW104_230314	Normal	NSW_0382_PFASOMP_23			<0.01	0.06	0.03	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	12 Sep 2023	0382_SW104_230912	Normal	NSW_0382_PFASOMP_23			<0.01	0.07	0.04	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
SW105	15 Jun 2018	0382_SW105_180615	Normal	NSW_0382_PFAS			<0.05	*0.51*	0.13	0.64	0.7	0.01	<0.01	<0.05	<0.01	<0.05	0.02	0.03	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW105	30 Sep 2020	0382_SW105_200930	Normal	NSW_0382_PFASOMP_20			0.02	0.13	0.03	0.16	0.45	<0.02	<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	0.23	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	24 Mar 2021	0382_SW105_210324	Normal	NSW_0382_PFASOMP_20			<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
SW105	07 Sep 2021	0382_SW105_210907	Normal	NSW_0382_PFASOMP_20			<0.01	0.12	0.04	0.16	0.2	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	21 Mar 2022	0382_SW105_220321	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.02	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
SW105	05 Sep 2022	0382_SW105_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.09	0.04	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
SW105	14 Mar 2023	0382_SW105_230314	Normal	NSW_0382_PFASOMP_23			<0.01	0.1	0.04	0.14	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	12 Sep 2023	0382_SW105_230912	Normal	NSW_0382_PFASOMP_23			<0.01	0.09	0.04	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
SW111	30 Sep 2020	0382_SW111_200930	Normal	NSW_0382_PFASOMP_20			0.02	0.1	0.05	0.15	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	03 Dec 2020	0382_QC101_201203	Field_D	NSW_0382_PFASOMP_20			0.02	0.08	0.05	0.13	0.18	<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
SW111	03 Dec 2020	0382_QC201_201203	Interlab_D	NSW_0382_PFASOMP_20			0.018	0.084	0.05	0.134	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.022	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
SW111	03 Dec 2020	0382_SW111_201203	Normal	NSW_0382_PFASOMP_20			0.02	0.07	0.05	0.12	0.17	<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
SW111	25 Mar 2021	0382_SW111_210325	Normal	NSW_0382_PFASOMP_20			0.06	*1.42*	1.03	**2.45**	3.23	0.09	0.08	0.04	<0.02	<0.1	0.13	0.35	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
SW111	07 Jun 2021	0382_SW111_210607	Normal	NSW_0382_PFASOMP_20			0.07	*1.93*	0.9	**2.83**	3.41	0.06	0.08	0.04	<0.02	<0.1	0.05	0.2	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	07 Sep 2021	0382_SW111_210907	Normal	NSW_0382_PFASOMP_20			0.04	*1.01*	0.73	1.74	2.18	0.05	0.06	0.03	<0.02	<0.1	0.04	0.2	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	06 Dec 2021	0382_SW111_211206	Normal	NSW_0382_PFASOMP_20			0.01	0.06	0.03	0.09	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
SW111	23 Mar 2022	0382_SW111_220323	Normal	NSW_0382_PFASOMP_20			0.01	0.05	0.03	0.08	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	15 Jun 2022	0382_QC201_220615	Interlab_D	NSW_0382_PFASOMP_20			0.02	0.05	0.05	0.1	0.14	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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	<0.05	<0.1	<0.02	<0.5
SW111	15 Jun 2022	0382_SW111_220615	Normal	NSW_0382_PFASOMP_20			0.02	0.08	0.06	0.14	0.19	<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
SW111	05 Sep 2022	0382_QC202_220905	Interlab_D	NSW_0382_PFASOMP_20			0.01	0.04	0.03	0.07	0.1	<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	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW111	05 Sep 2022	0382_SW111_220905	Normal	NSW_0382_PFASOMP_20			0.01	0.04	0.03	0.07	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
SW111	05 Dec 2022	0382_QC201_221205	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.12	0.07	0.19	0.22	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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	<0.05	<0.1	<0.02	<0.5
SW111	05 Dec 2022	0382_SW111_221205	Normal	NSW_0382_PFASOMP_20			<0.01	*0.16*	0.08	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
SW111	13 Mar 2023	0382_SW111_230313	Normal	NSW_0382_PFASOMP_23			0.01	0.09	0.05	0.14	0.18	<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

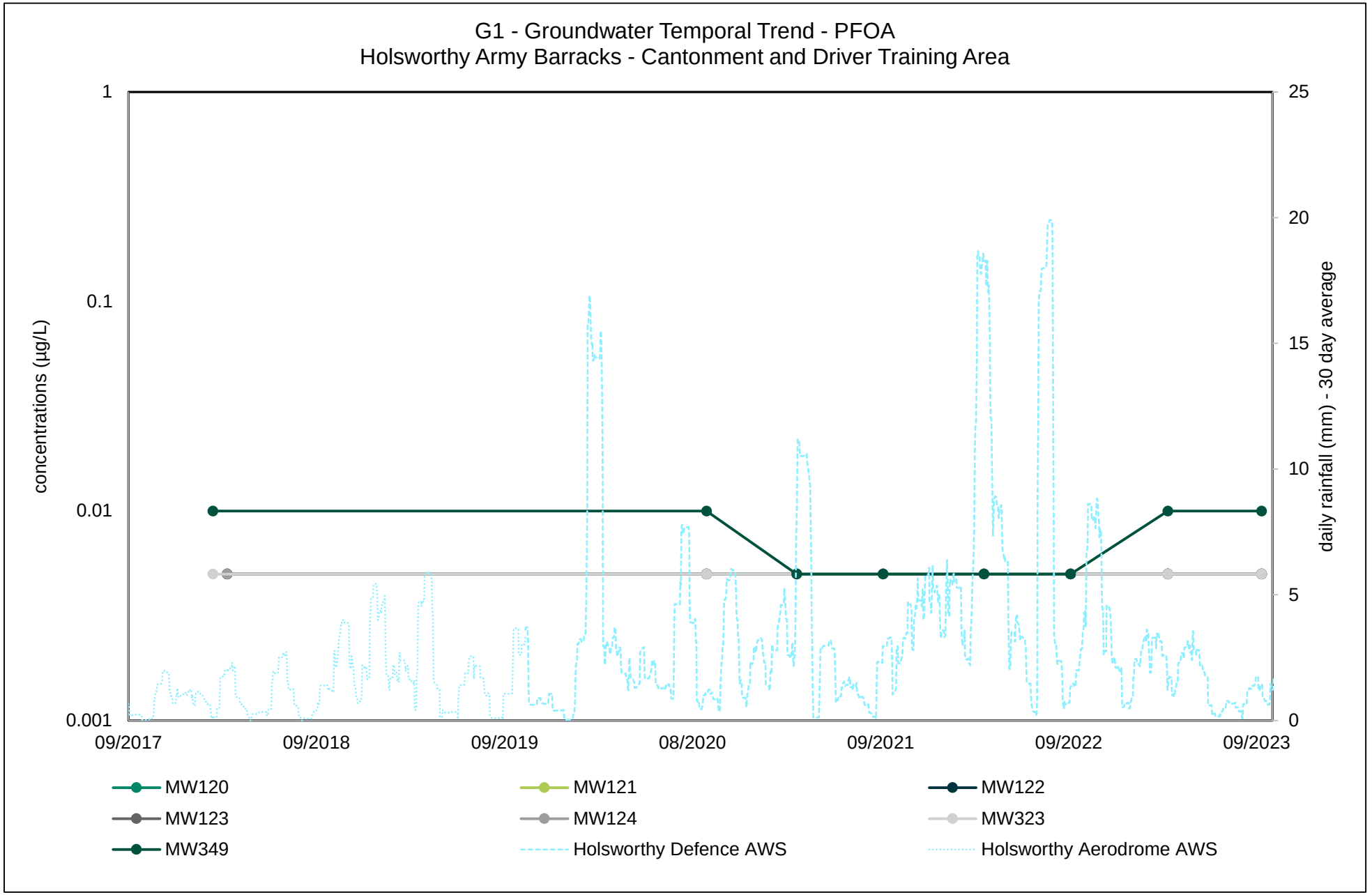
Notes:

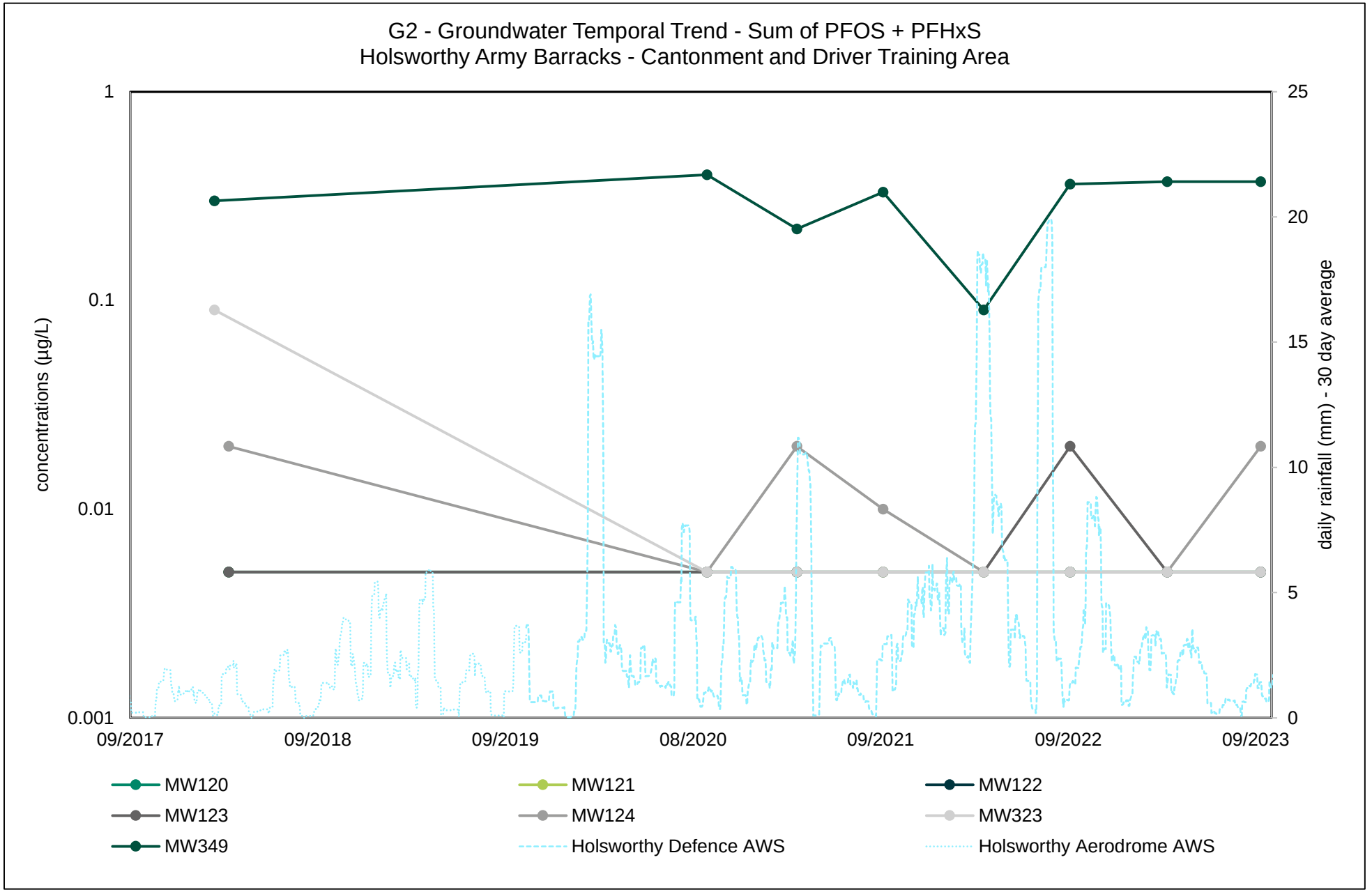
LOR	Limit of Reporting
Normal	Primary sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample

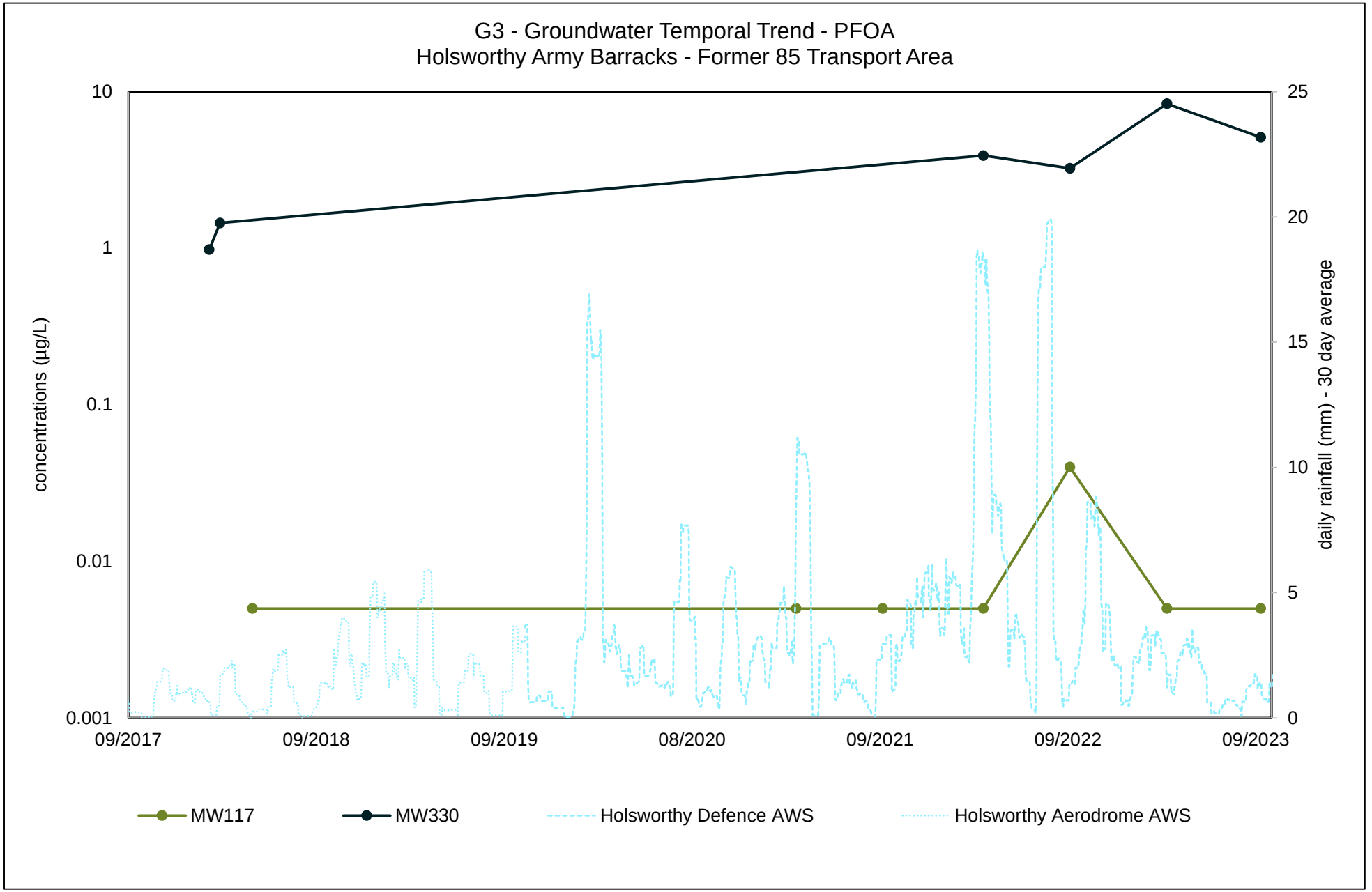
Appendix C

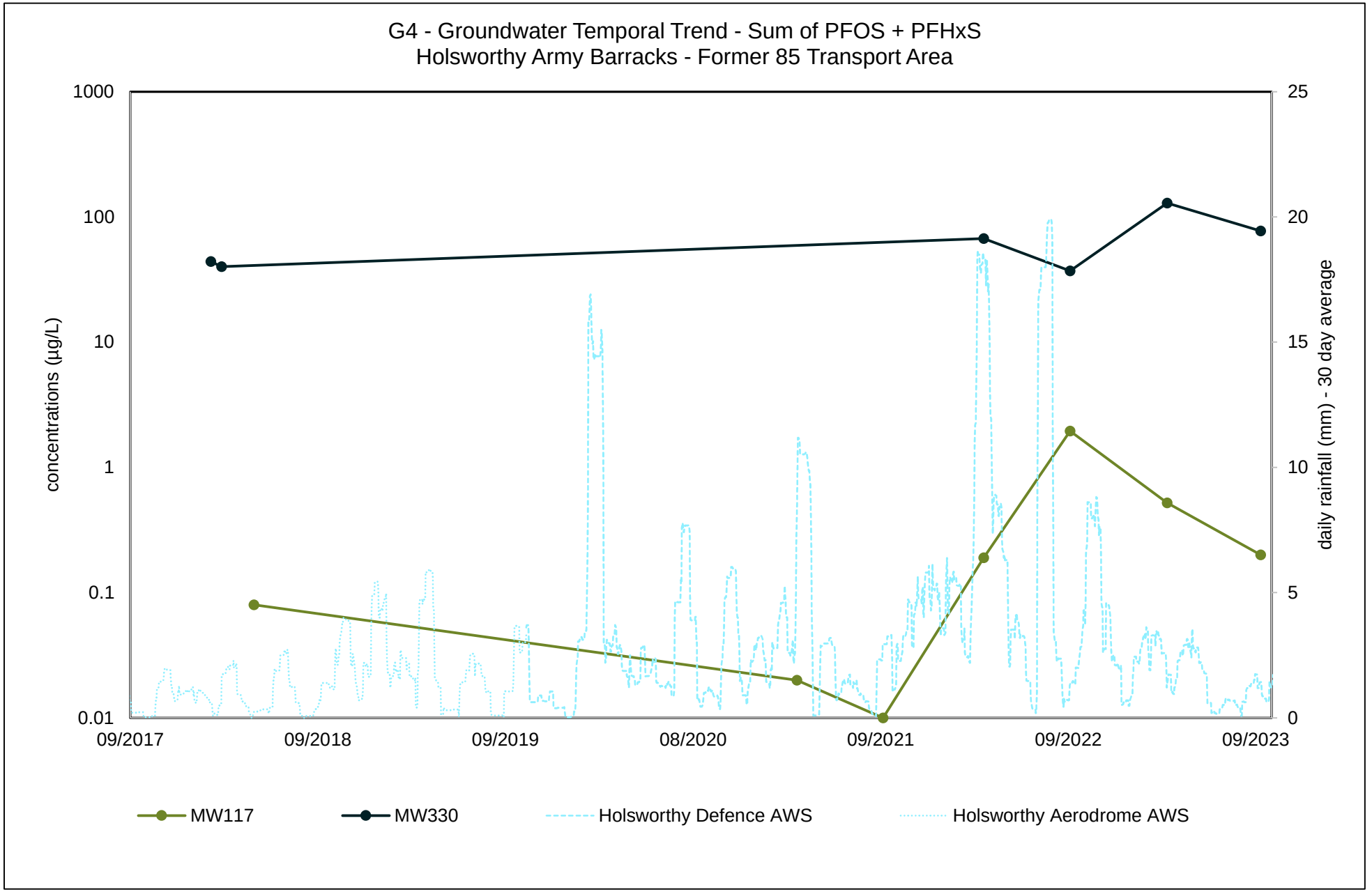
Temporal Trend Graphs and Mann-Kendall Analysis

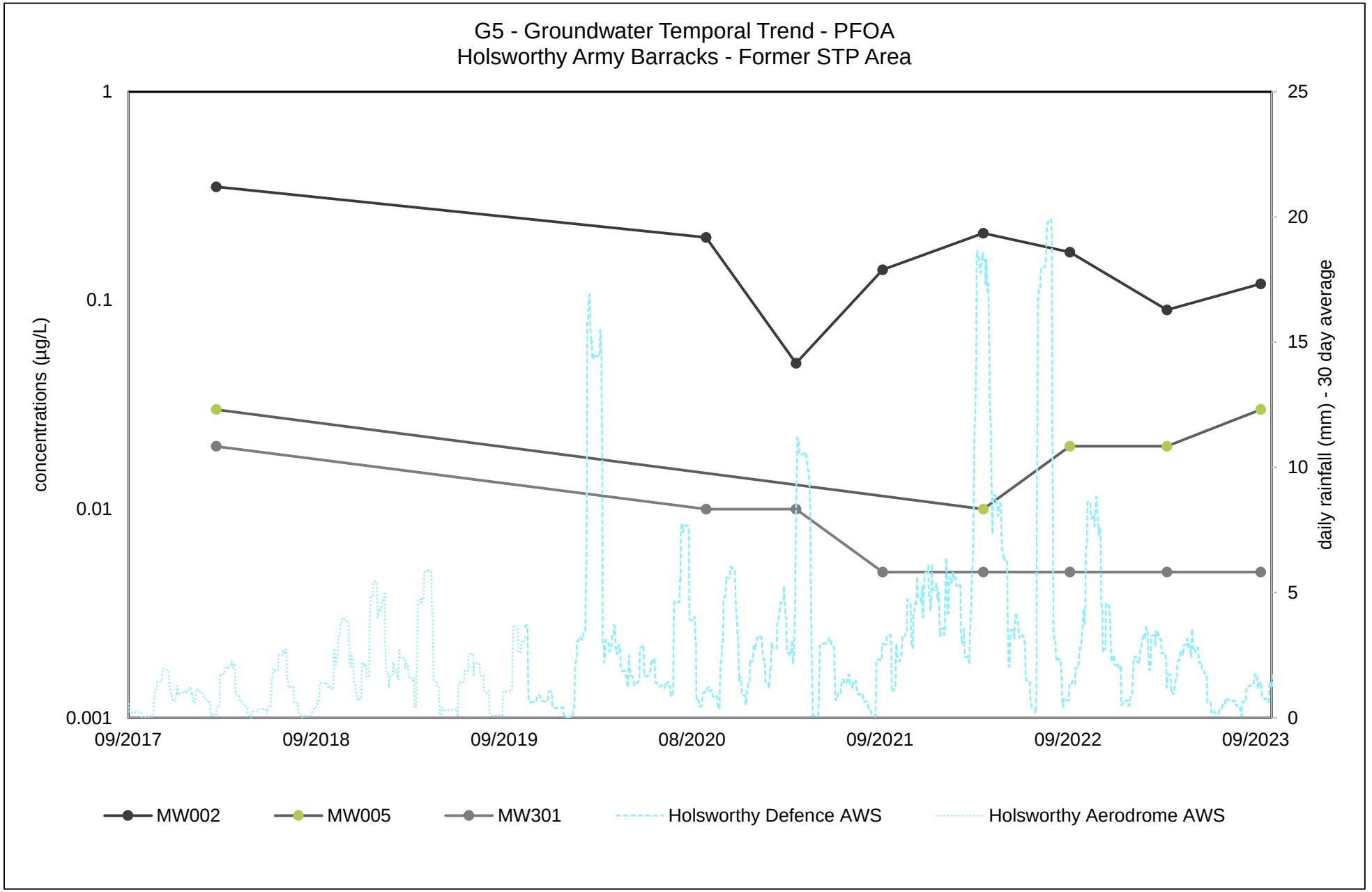
Temporal Trend Graphs

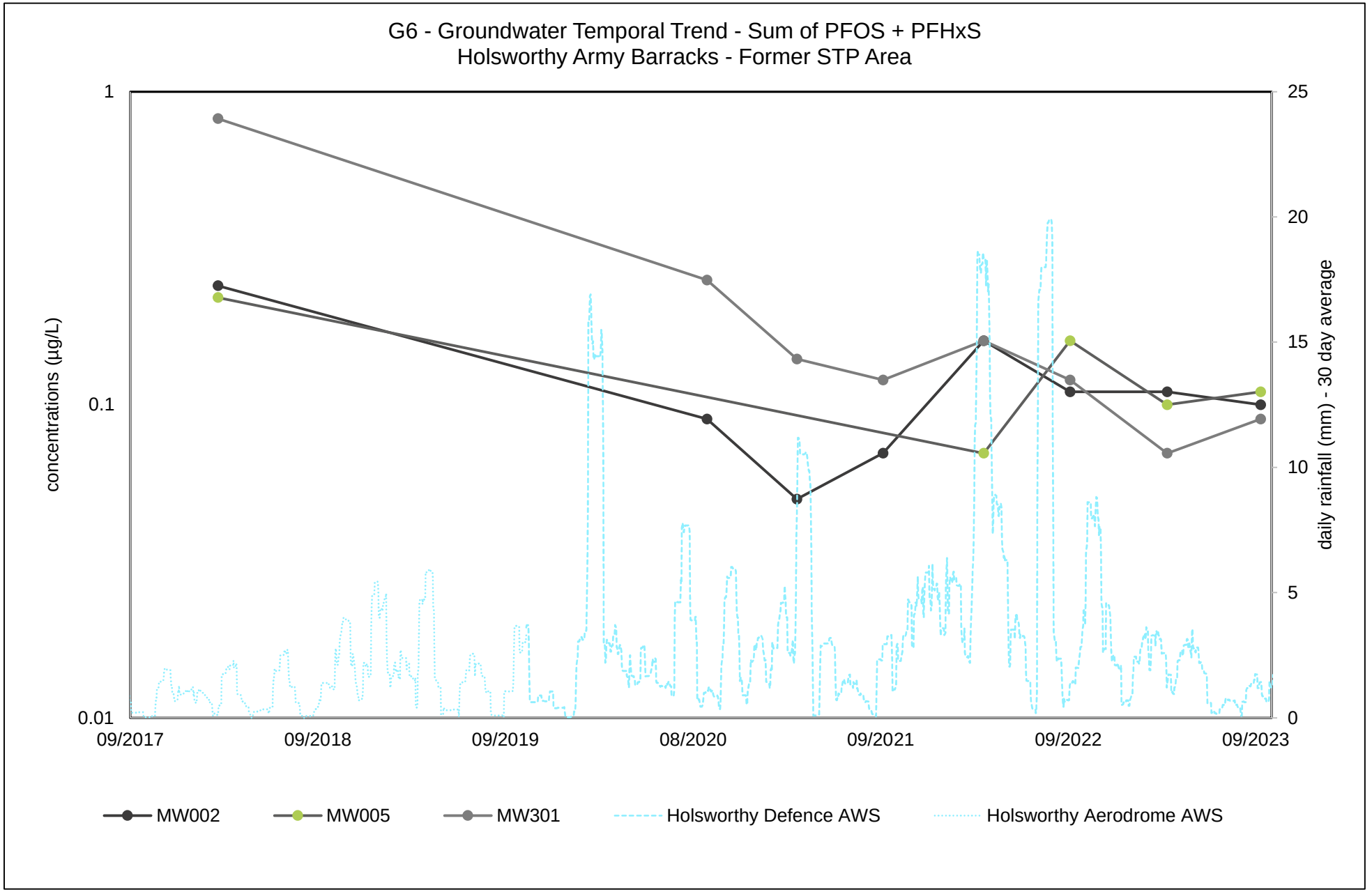

G1 - Groundwater Temporal Trend - PFOA
Holsworthy Army Barracks - Cantonment and Driver Training Area
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW120
MW121
MW122
MW123
MW124
MW323
MW349
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

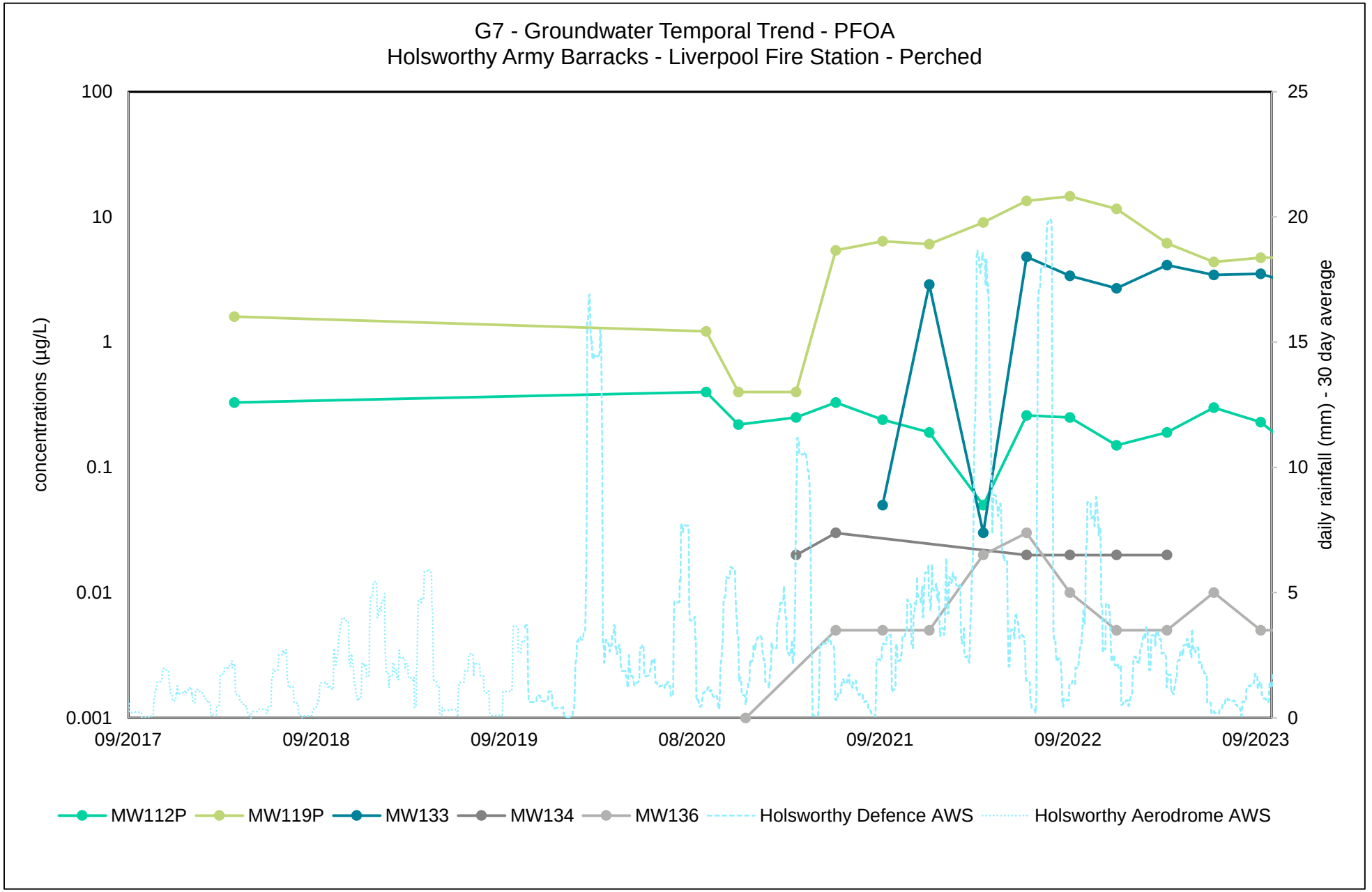

G2 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Cantonment and Driver Training Area
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW120
MW121
MW122
MW123
MW124
MW323
MW349
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

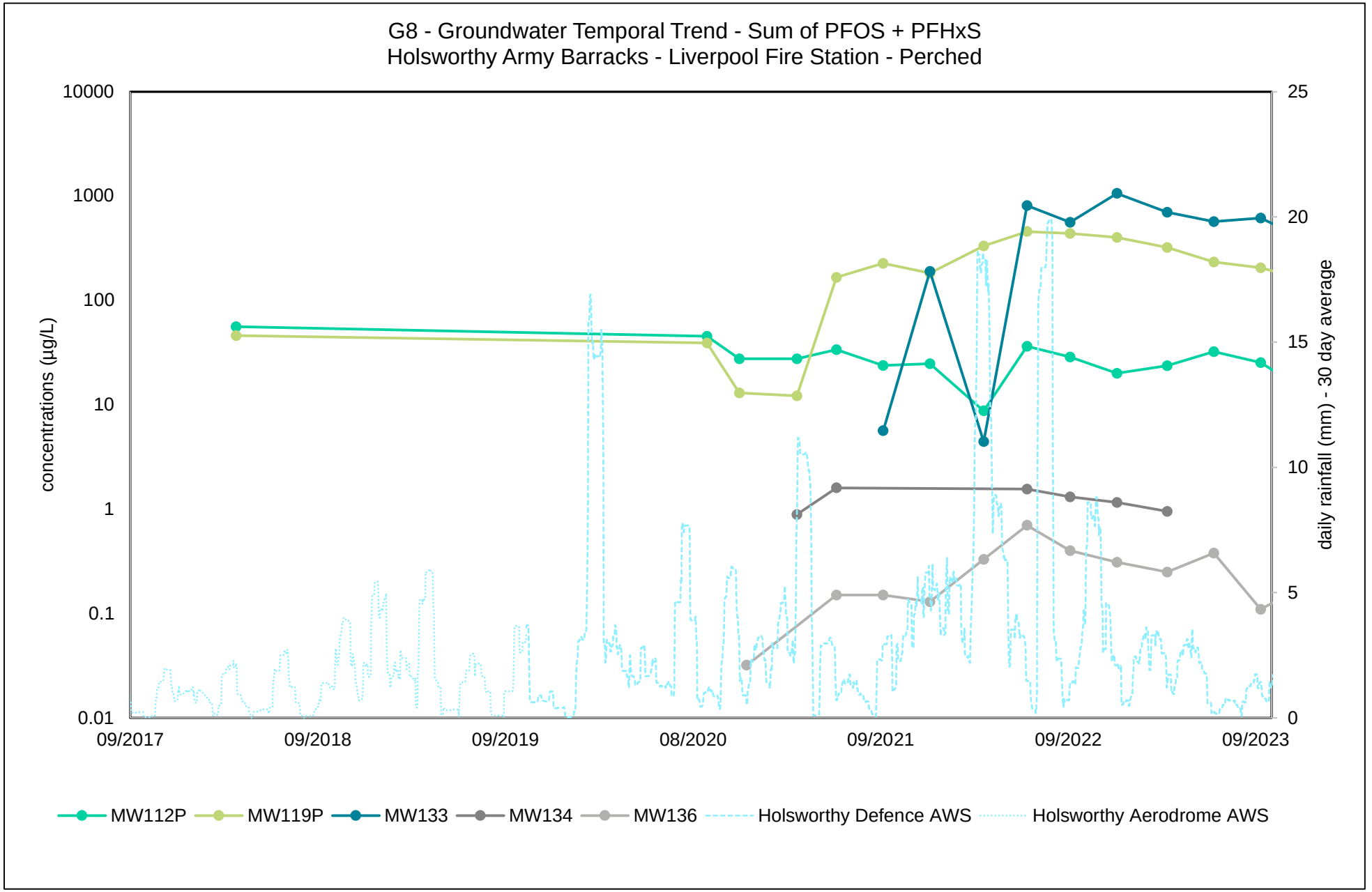

G3 - Groundwater Temporal Trend - PFOA
Holsworthy Army Barracks - Former 85 Transport Area
concentrations (µg/L)
10
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW117
MW330
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

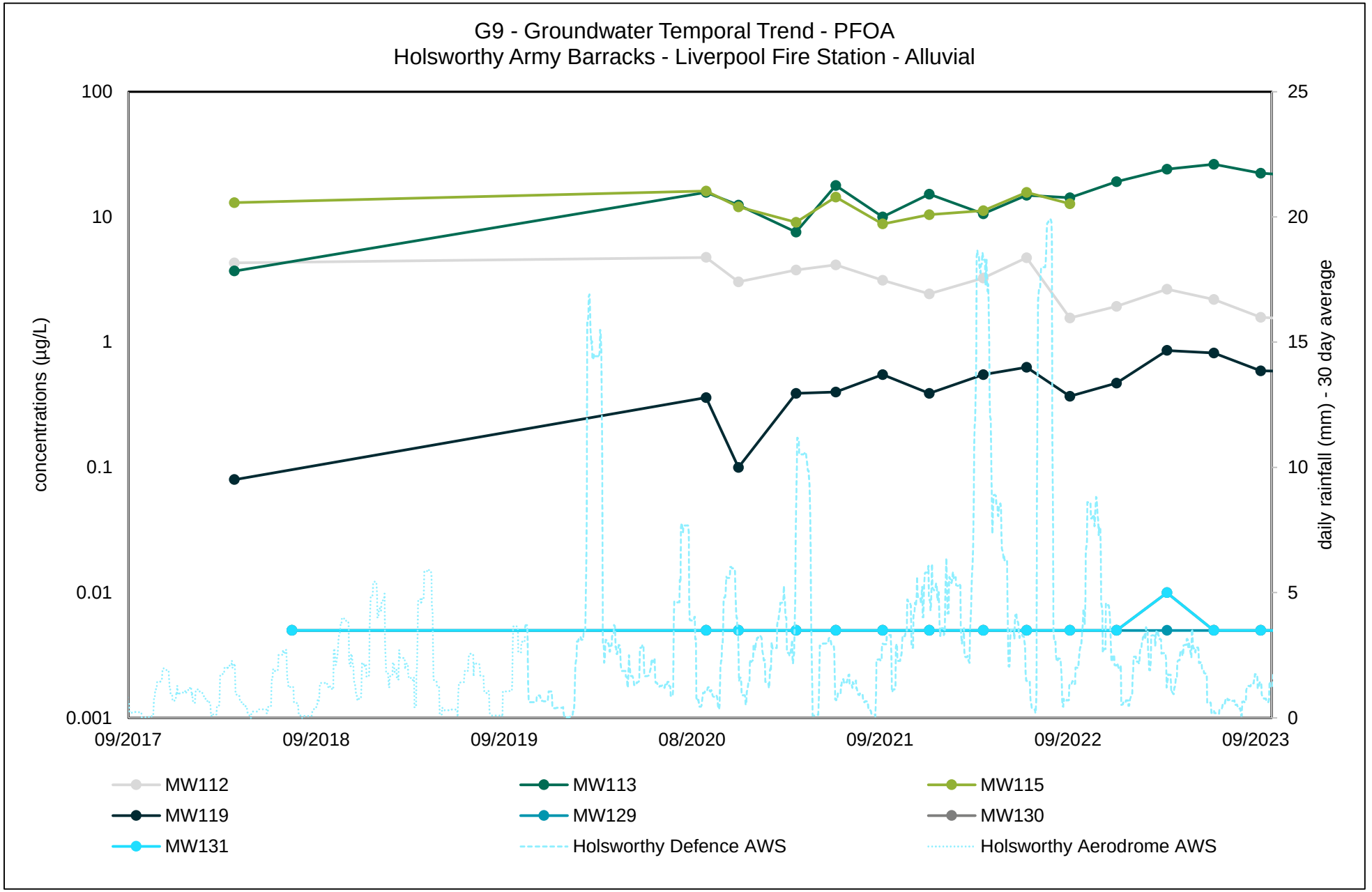

G4 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Former 85 Transport Area
concentrations (µg/L)
1000
100
10
1
0.1
0.01
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW117
MW330
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

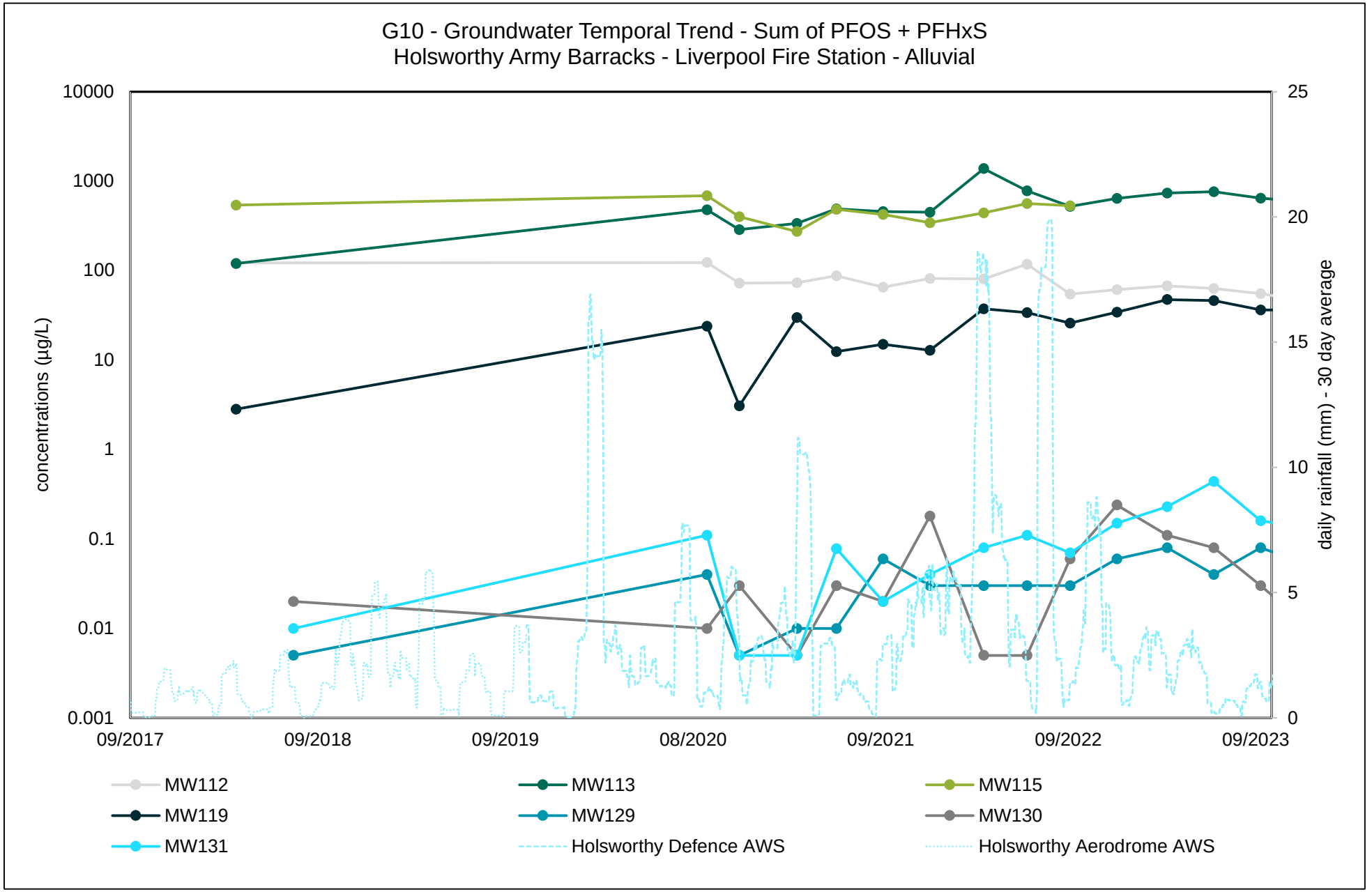

G5 - Groundwater Temporal Trend - PFOA
Holsworthy Army Barracks - Former STP Area
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW002
MW005
MW301
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

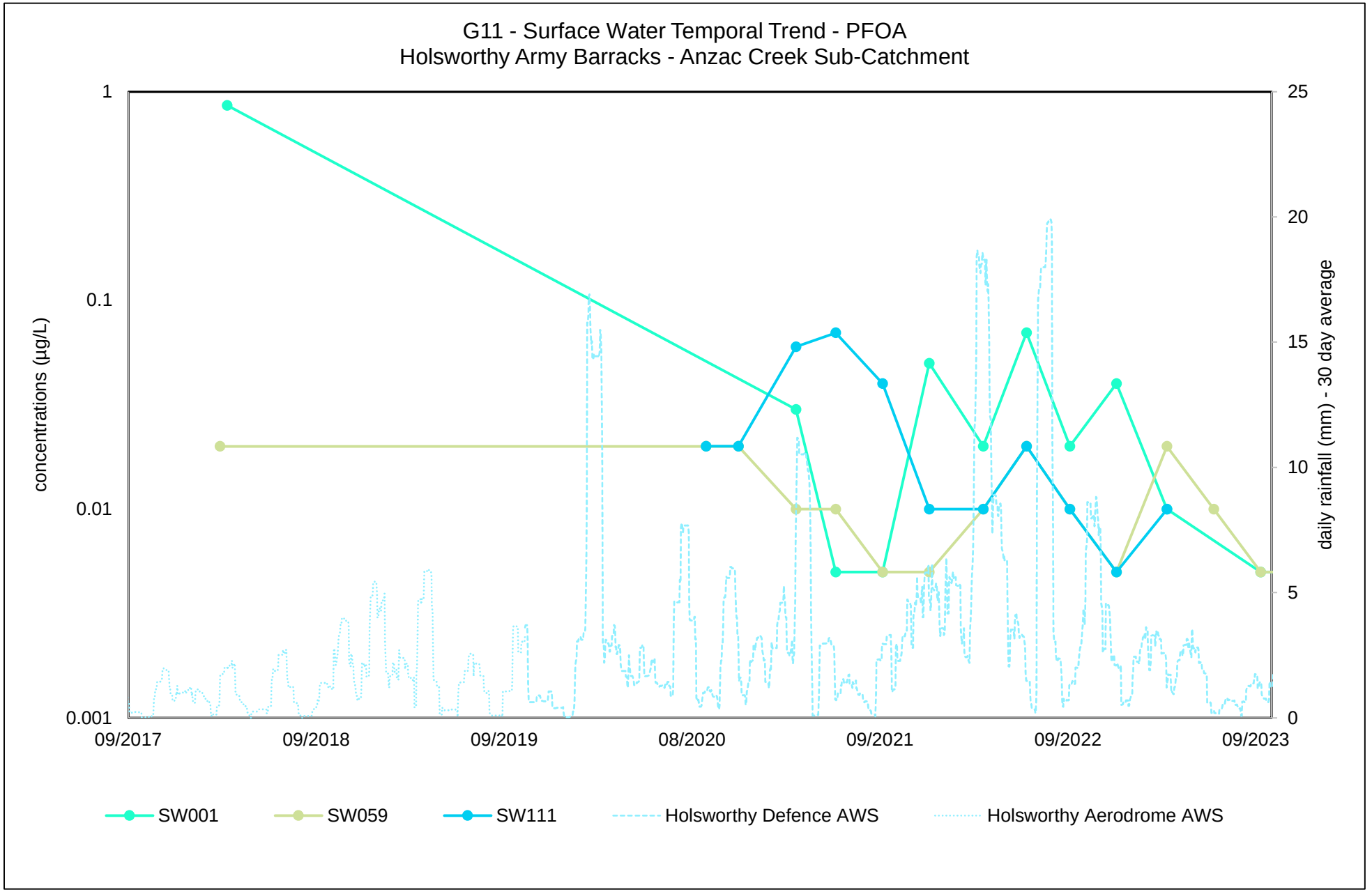

G6 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Former STP Area
concentrations (µg/L)
1
0.1
0.01
25
20
15
10
5
0
daily rainfall (mm) - 30 day average
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW002
MW005
MW301
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

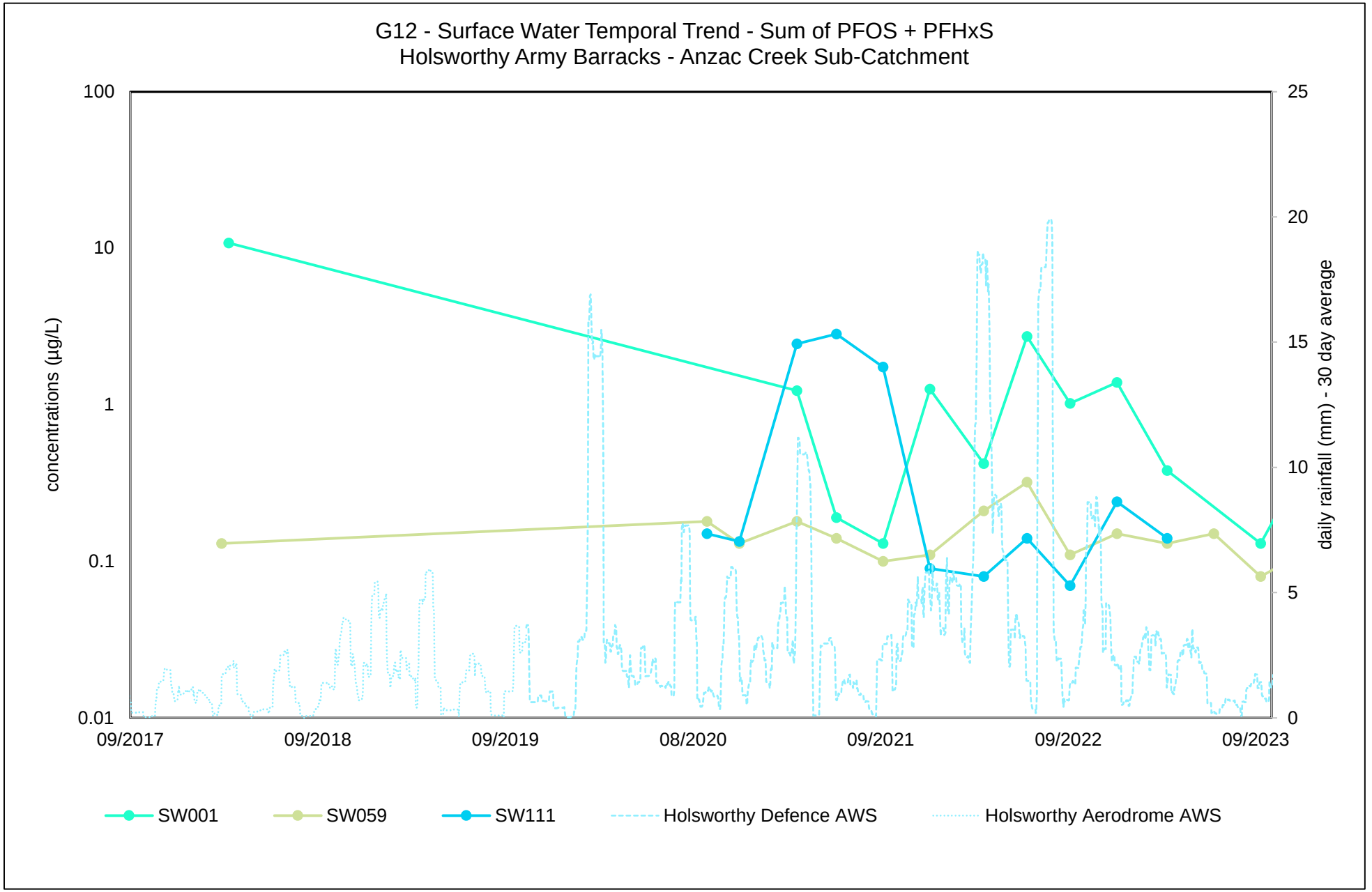

G7 - Groundwater Temporal Trend - PFOA
Holsworthy Army Barracks - Liverpool Fire Station - Perched
concentrations (µg/L)
daily rainfall (mm) - 30 day average
100
10
1
0.1
0.01
0.001
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW112P
MW119P
MW133
MW134
MW136
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

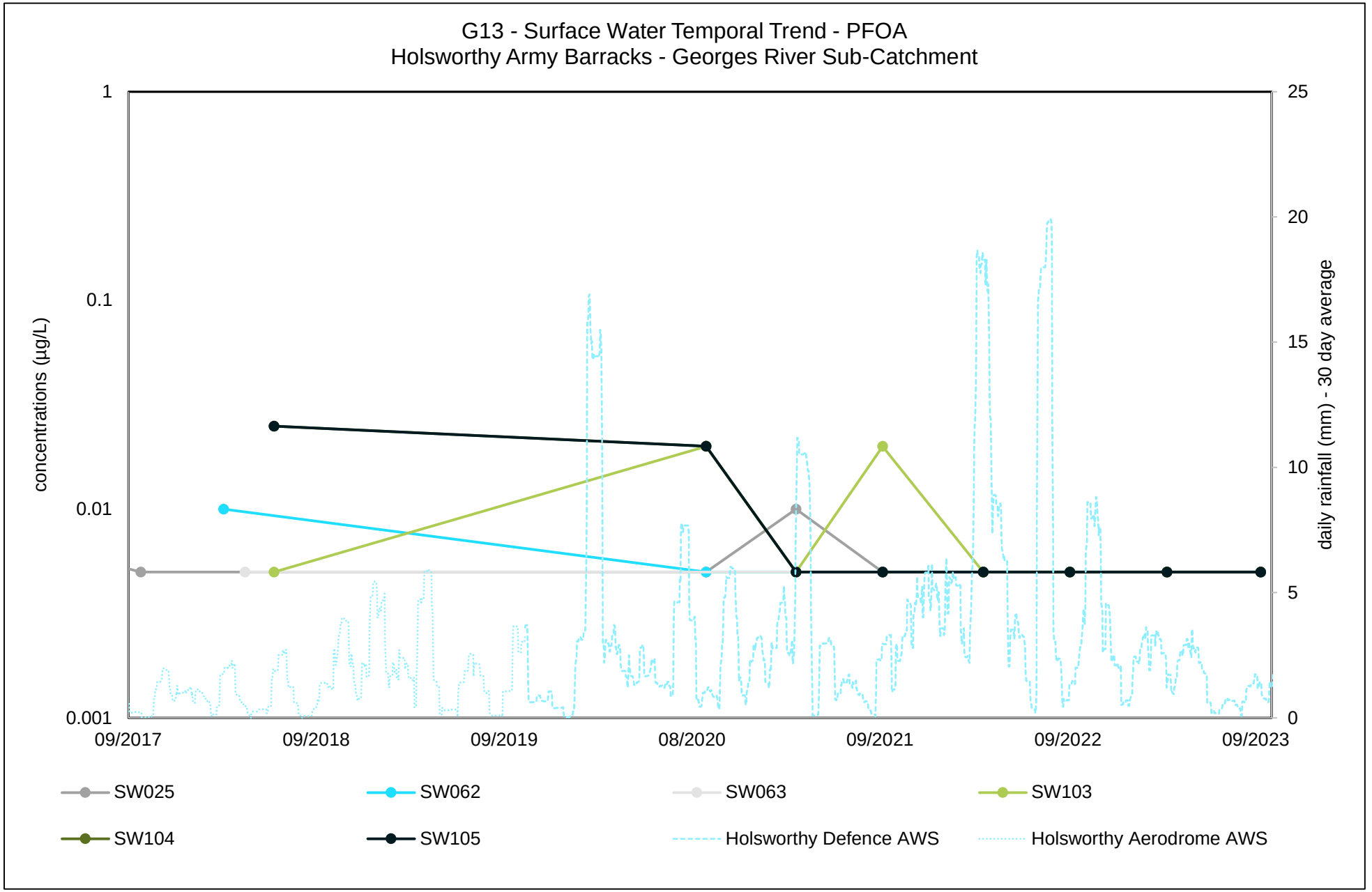

G8 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Liverpool Fire Station - Perched
concentrations (µg/L)
10000
1000
100
10
1
0.1
0.01
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW112P
MW119P
MW133
MW134
MW136
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

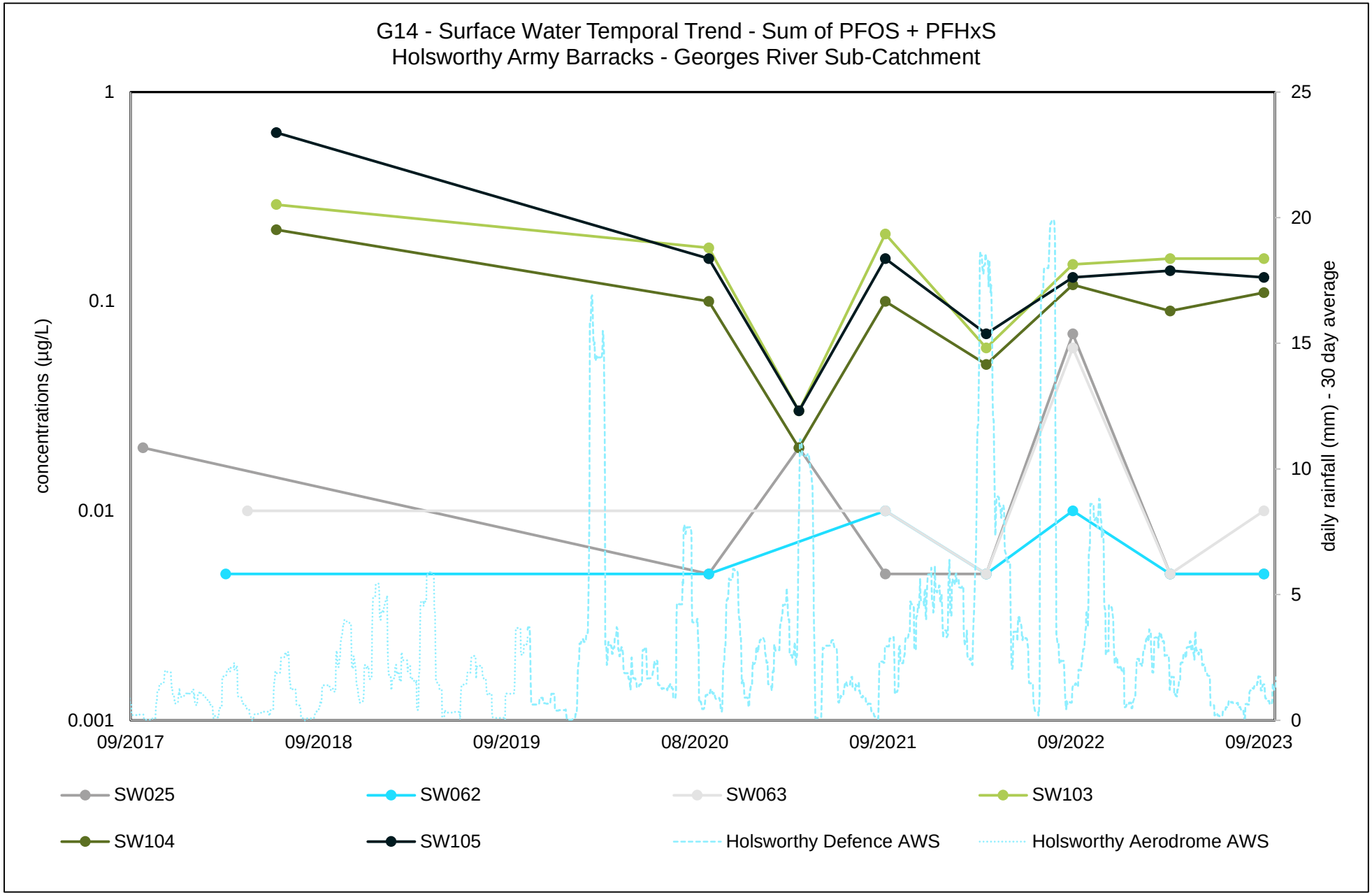

G9 - Groundwater Temporal Trend - PFOA
Holsworthy Army Barracks - Liverpool Fire Station - Alluvial
concentrations (µg/L)
daily rainfall (mm) - 30 day average
100
10
1
0.1
0.01
0.001
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW112
MW113
MW115
MW119
MW129
MW130
MW131
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

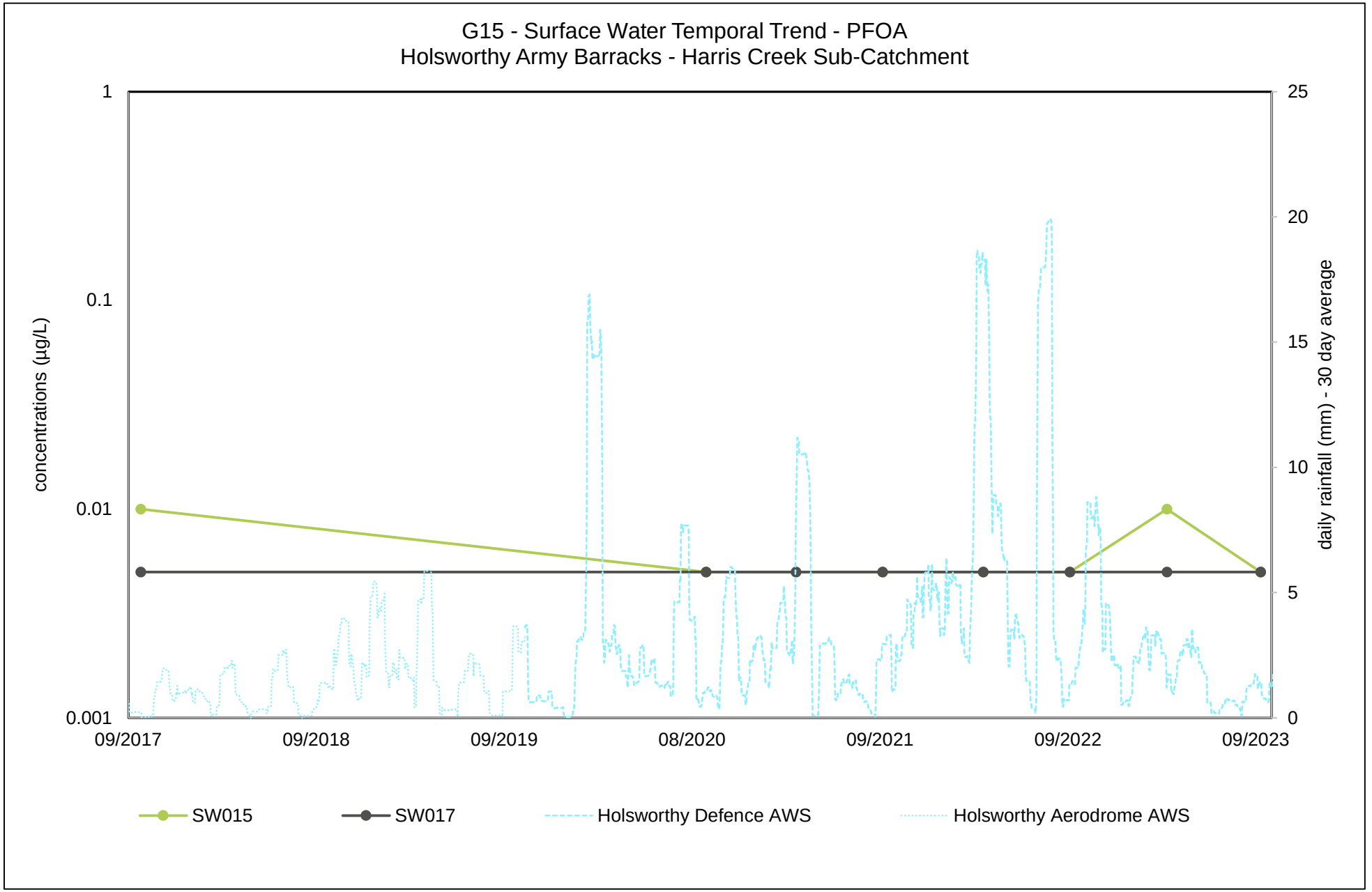

G10 - Groundwater Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Liverpool Fire Station - Alluvial
concentrations (µg/L)
daily rainfall (mm) - 30 day average
10000
1000
100
10
1
0.1
0.01
0.001
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
MW112
MW113
MW115
MW119
MW129
MW130
MW131
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

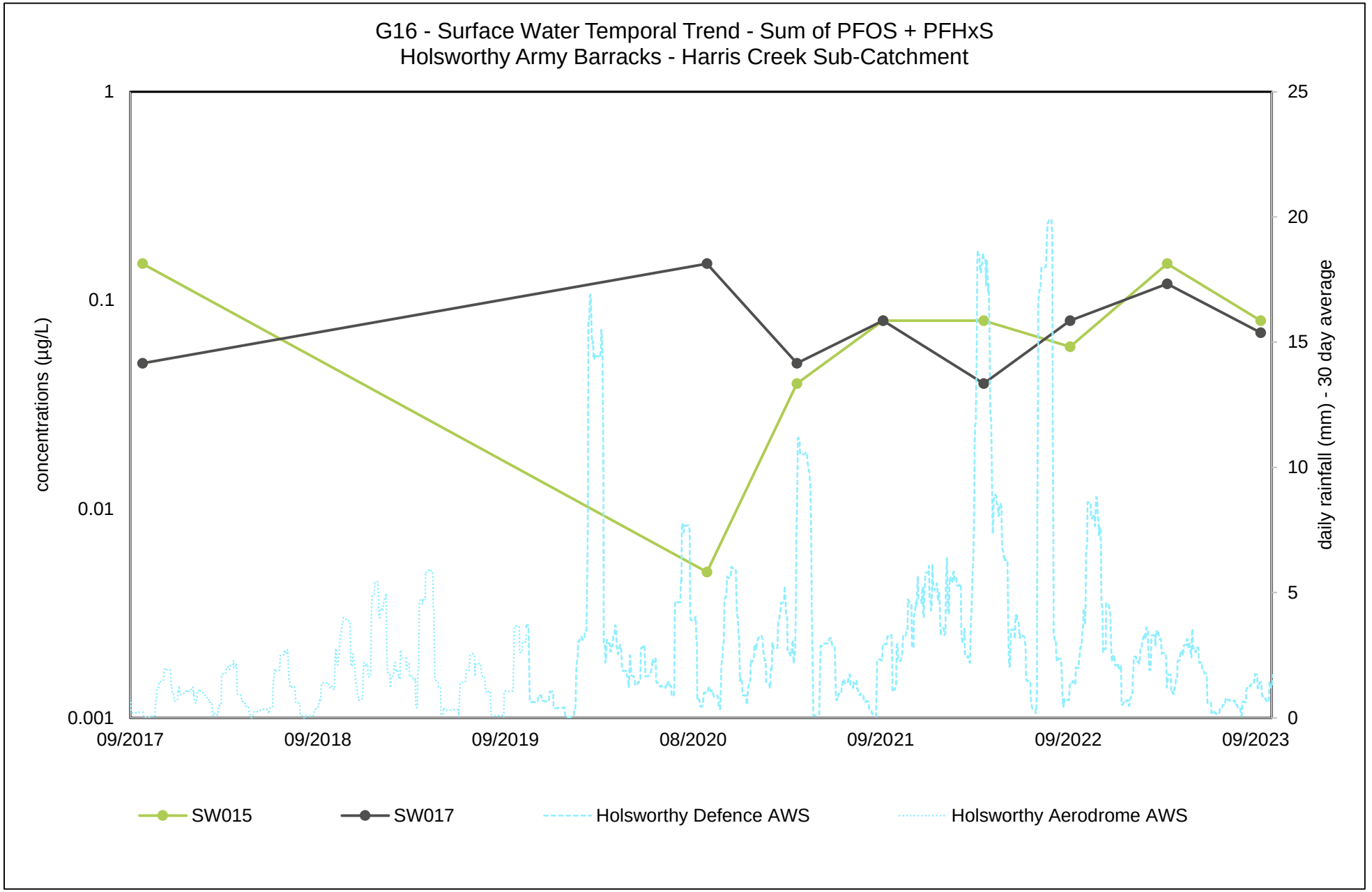

G11 - Surface Water Temporal Trend - PFOA
Holsworthy Army Barracks - Anzac Creek Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW001
SW059
SW111
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

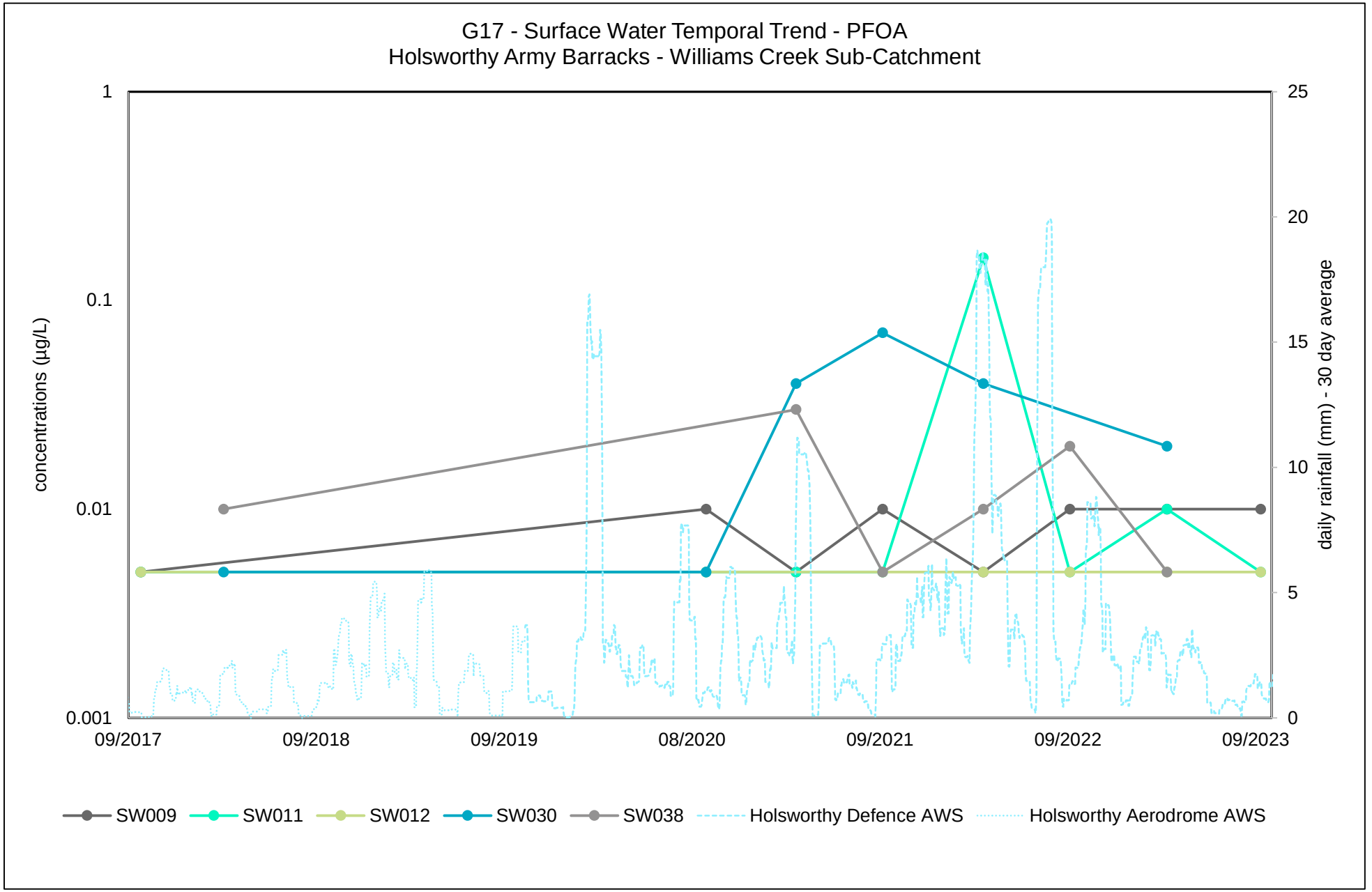

G12 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Anzac Creek Sub-Catchment
concentrations (µg/L)
100
10
1
0.1
0.01
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW001
SW059
SW111
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

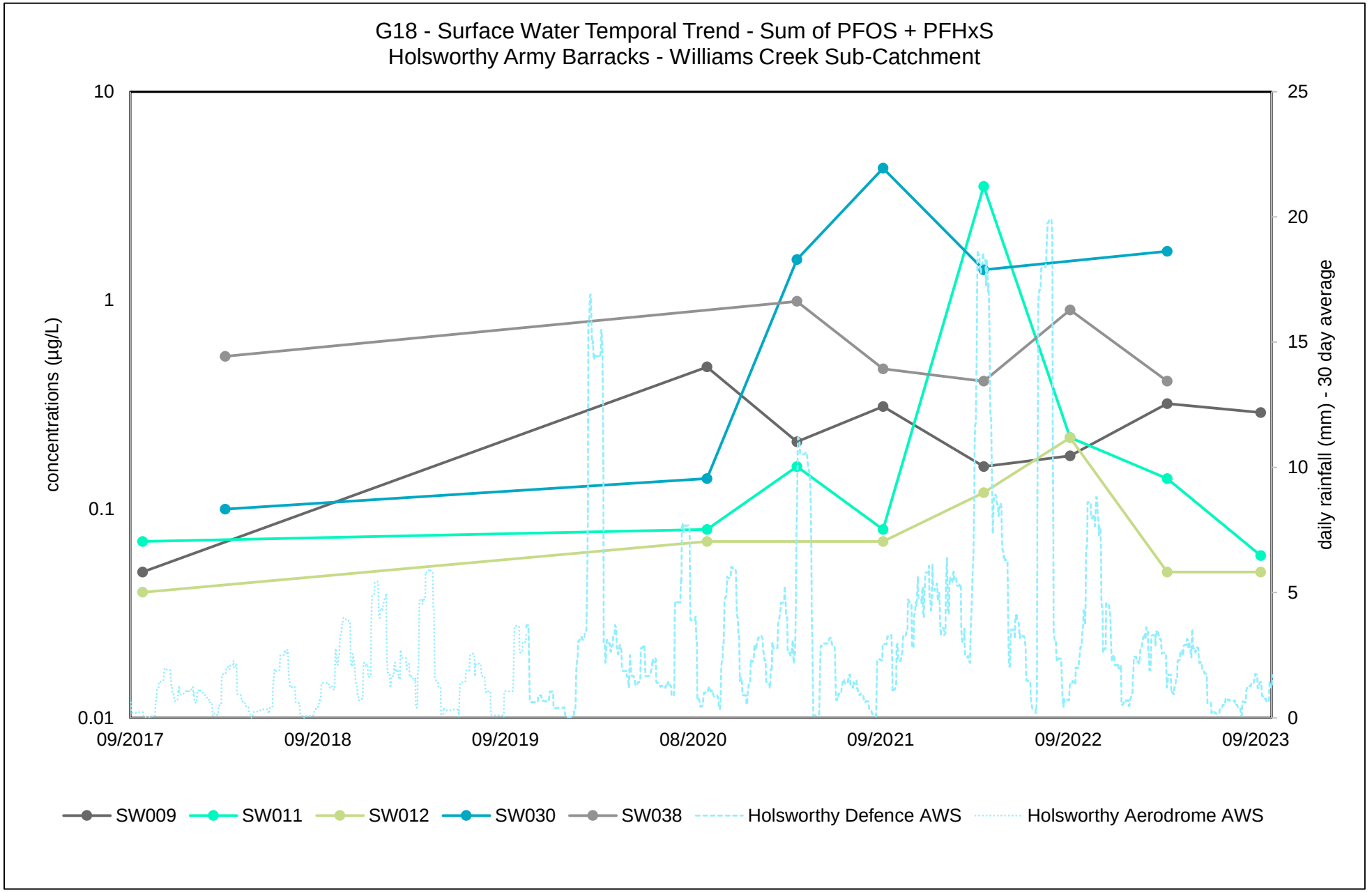

G13 - Surface Water Temporal Trend - PFOA
Holsworthy Army Barracks - Georges River Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW025
SW062
SW063
SW103
SW104
SW105
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

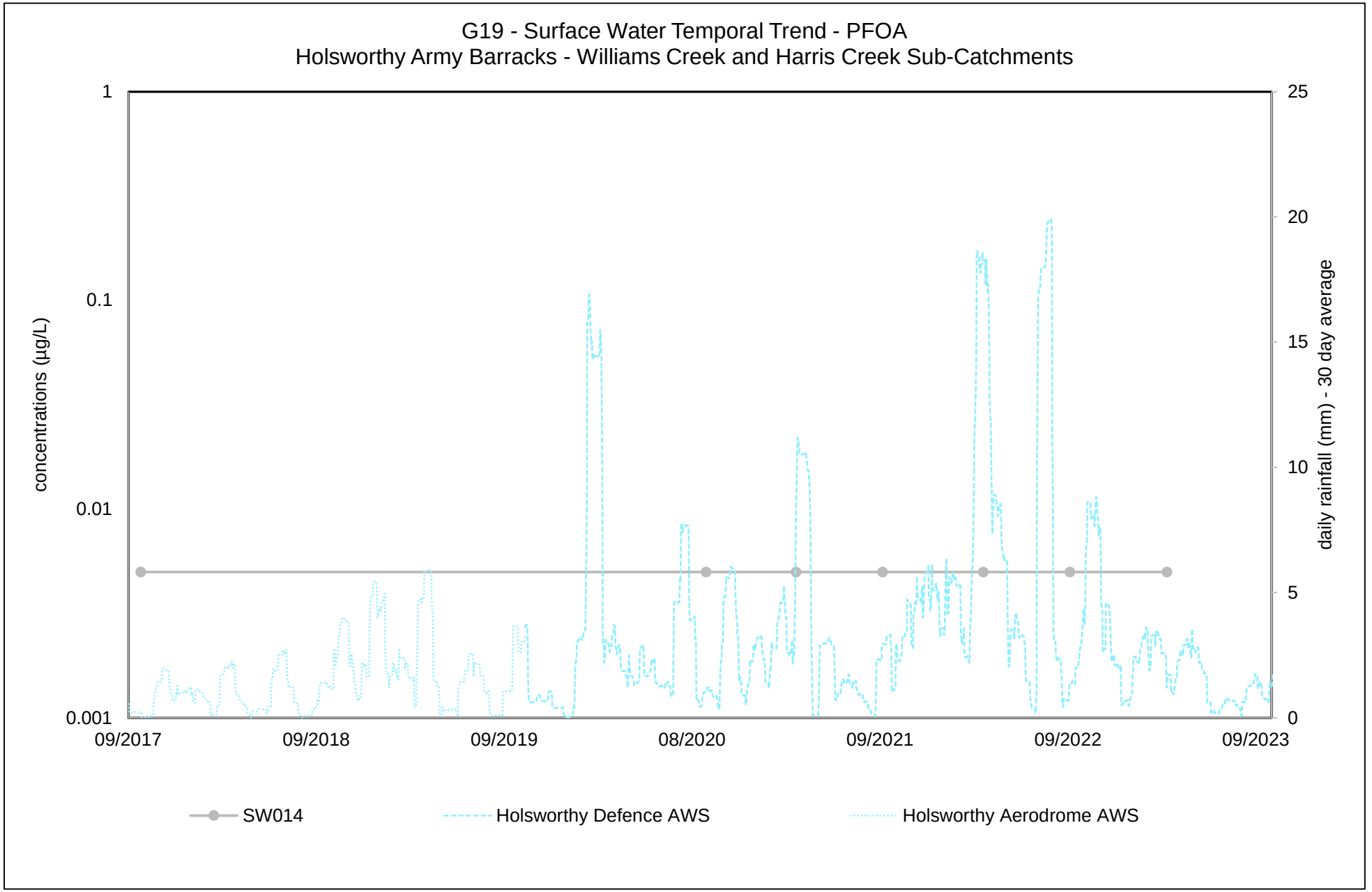

G14 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Georges River Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW025
SW062
SW063
SW103
SW104
SW105
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

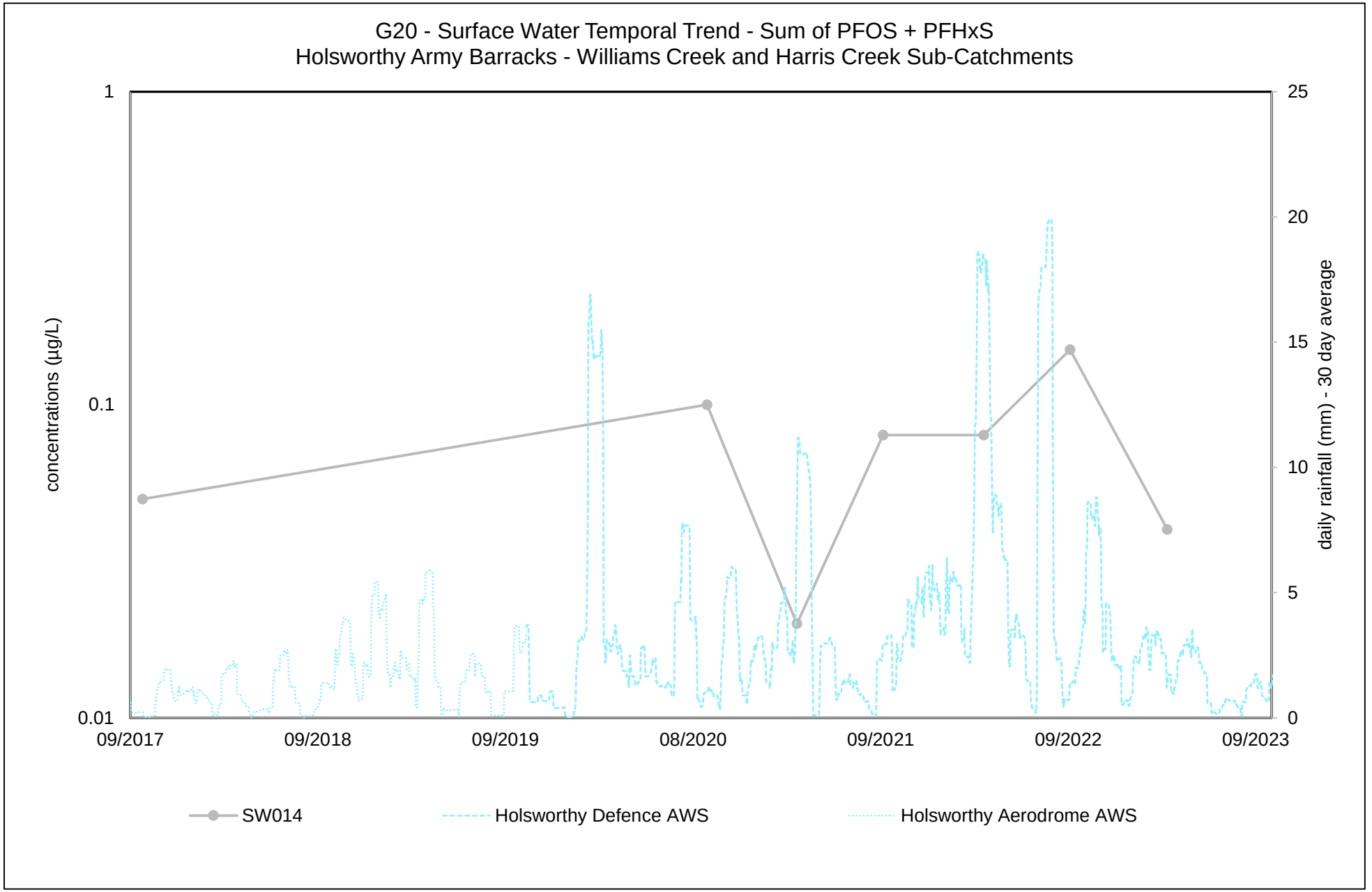

G15 - Surface Water Temporal Trend - PFOA
Holsworthy Army Barracks - Harris Creek Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW015
SW017
Holsworthy Defence AWS
Holsworthy Aerodrome AWS


G16 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Harris Creek Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW015
SW017
Holsworthy Defence AWS
Holsworthy Aerodrome AWS


G17 - Surface Water Temporal Trend - PFOA
Holsworthy Army Barracks - Williams Creek Sub-Catchment
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW009
SW011
SW012
SW030
SW038
Holsworthy Defence AWS
Holsworthy Aerodrome AWS


G18 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Williams Creek Sub-Catchment
concentrations (µg/L)
daily rainfall (mm) - 30 day average
10
1
0.1
0.01
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW009
SW011
SW012
SW030
SW038
Holsworthy Defence AWS
Holsworthy Aerodrome AWS


G19 - Surface Water Temporal Trend - PFOA
Holsworthy Army Barracks - Williams Creek and Harris Creek Sub-Catchments
concentrations (µg/L)
1
0.1
0.01
0.001
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW014
Holsworthy Defence AWS
Holsworthy Aerodrome AWS


G20 - Surface Water Temporal Trend - Sum of PFOS + PFHxS
Holsworthy Army Barracks - Williams Creek and Harris Creek Sub-Catchments
concentrations (µg/L)
1
0.1
0.01
daily rainfall (mm) - 30 day average
25
20
15
10
5
0
09/2017
09/2018
09/2019
08/2020
09/2021
09/2022
09/2023
SW014
Holsworthy Defence AWS
Holsworthy Aerodrome AWS

Mann Kendall Analysis

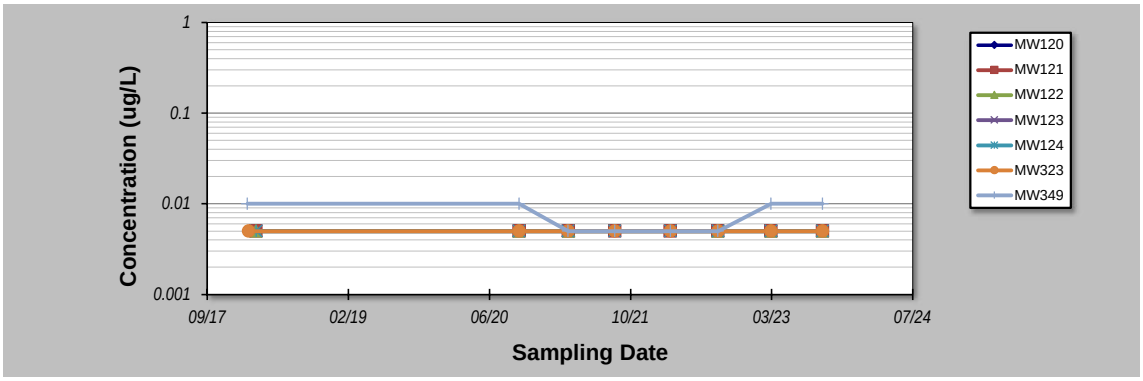
AECOM

Mann Kendall Analysis - Groundwater
Cantonment and Driver Training Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **11-Jan-24**
Facility Name: **Holsworthy Army Barracks**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOA**
Concentration Units: **ug/L**

Sampling Point ID:	MW120	MW121	MW122	MW123	MW124	MW323	MW349
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	12/02/2018							0.01
2	16/02/2018						0.005	
3	14/03/2018	0.005	0.005	0.005				
4	15/03/2018				0.005	0.005		
5	1/10/2020	0.005	0.005	0.005	0.005	0.005	0.005	0.01
6	24/03/2021				0.005	0.005	0.005	0.005
7	25/03/2021	0.005	0.005					
8	26/03/2021			0.005				
9	6/09/2021	0.005	0.005		0.005	0.005	0.005	0.005
10	21/03/2022	0.005	0.005					
11	22/03/2022				0.005	0.005	0.005	0.005
12	6/09/2022	0.005	0.005	0.005	0.005			0.005
13	7/09/2022					0.005	0.005	
14	5/12/2022							
15	13/03/2023	0.005	0.005	0.005	0.005	0.005	0.005	0.01
16	12/06/2023							
17	11/09/2023	0.005	0.005	0.005	0.005	0.005	0.005	0.01
18								
19								
20								
Coefficient of Variation:		0.00	0.00	0.00	0.00	0.00	0.00	0.36
Mann-Kendall Statistic (S):		0	0	0	0	0	0	0
Confidence Factor:		45.2%	45.2%	39.3%	45.2%	45.2%	45.2%	45.2%
Concentration Trend:		-	-	-	-	-	-	Stable



Notes:

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

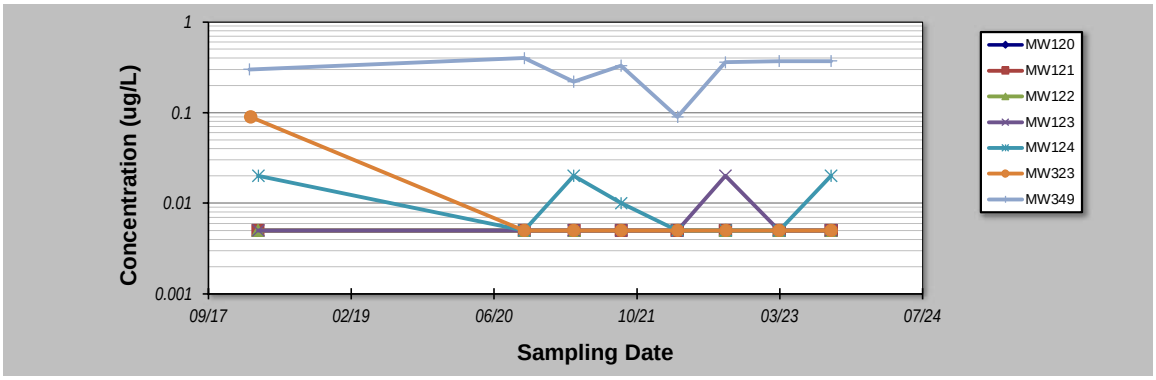
AECOM

Mann Kendall Analysis - Groundwater
Cantonment and Driver Training Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-Jan-24	Job ID:	60612562
Facility Name:	Holsworthy Army Barracks	Constituent:	PFOS+PFHxS
Conducted By:	DDT	Concentration Units:	ug/L

Sampling Point ID:	MW120	MW121	MW122	MW123	MW124	MW323	MW349
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	12/02/2018							0.3
2	16/02/2018						0.09	
3	14/03/2018	0.005	0.005	0.005				
4	15/03/2018				0.005	0.02		
5	1/10/2020	0.005	0.005	0.005	0.005	0.005	0.005	0.4
6	24/03/2021				0.005	0.02	0.005	0.22
7	25/03/2021	0.005	0.005					
8	26/03/2021			0.005				
9	6/09/2021	0.005	0.005		0.005	0.01	0.005	0.33
10	21/03/2022	0.005	0.005					
11	22/03/2022				0.005	0.005	0.005	0.09
12	6/09/2022	0.005	0.005	0.005	0.02			0.36
13	7/09/2022					0.005	0.005	
14	5/12/2022							
15	13/03/2023	0.005	0.005	0.005	0.005	0.005	0.005	0.37
16	12/06/2023							
17	11/09/2023	0.005	0.005	0.005	0.005	0.02	0.005	0.37
18								
19								
20								
Coefficient of Variation:		0.00	0.00	0.00	0.77	0.66	1.92	0.34
Mann-Kendall Statistic (S):		0	0	0	3	-5	-7	7
Confidence Factor:		45.2%	45.2%	39.3%	59.4%	68.3%	76.4%	76.4%
Concentration Trend:		-	-	-	-	Stable	-	No Trend



Notes:

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

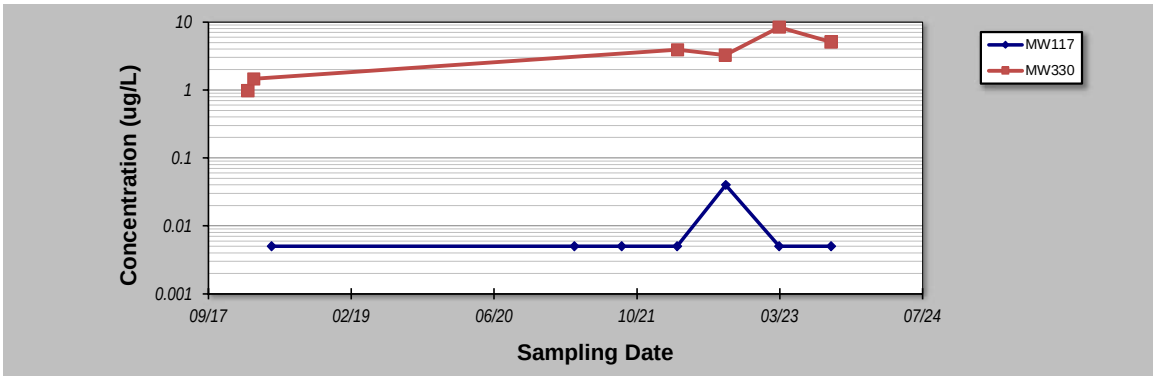
AECOM

Mann Kendall Analysis - Groundwater
Former 85 Transport Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-Jan-24	Job ID:	60612562
Facility Name:	Holsworthy Army Barracks	Constituent:	PFOA
Conducted By:	DDT	Concentration Units:	ug/L

Sampling Point ID:	MW117	MW330					
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)					
1	7/02/2018		0.98				
2	27/02/2018		1.45				
3	1/05/2018	0.005					
4	26/03/2021	0.005					
5	7/09/2021	0.005					
6	21/03/2022	0.005					
7	22/03/2022		3.9				
8	5/09/2022		3.24				
9	7/09/2022	0.04					
10	5/12/2022						
11	13/03/2023	0.005	8.38				
12	12/06/2023						
13	11/09/2023	0.005	5.1				
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.32	0.70				
Mann-Kendall Statistic (S):		2	11				
Confidence Factor:		55.7%	97.2%				
Concentration Trend:		-	Increasing				



Notes:

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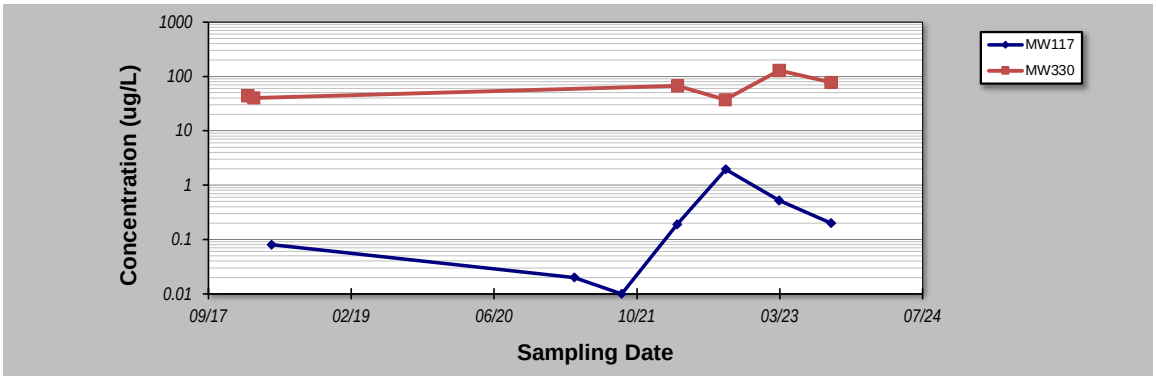
AECOM

Mann Kendall Analysis - Groundwater
Former 85 Transport Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **11-Jan-24**
Facility Name: **Holsworthy Army Barracks**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOS+PFHxS**
Concentration Units: **ug/L**

Sampling Point ID:	MW117	MW330					
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)					
1	7/02/2018		44.05				
2	27/02/2018		40.03				
3	1/05/2018	0.08					
4	26/03/2021	0.02					
5	7/09/2021	0.01					
6	21/03/2022	0.19					
7	22/03/2022		67				
8	5/09/2022		37.1				
9	7/09/2022	1.95					
10	5/12/2022						
11	13/03/2023	0.52	129				
12	12/06/2023						
13	11/09/2023	0.2	77				
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.64	0.53				
Mann-Kendall Statistic (S):		9	5				
Confidence Factor:		88.1%	76.5%				
Concentration Trend:		No Trend	No Trend				



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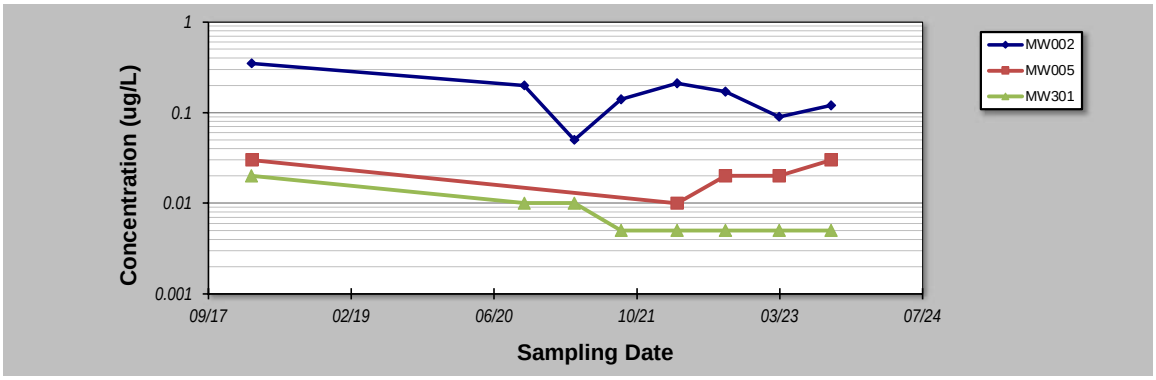
AECOM

Mann Kendall Analysis - Groundwater
Former STP Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **11-Jan-24**
Facility Name: **Holsworthy Army Barracks**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOA**
Concentration Units: **ug/L**

Sampling Point ID:	MW002	MW005	MW301				
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	19/02/2018			0.02				
2	20/02/2018	0.35						
3	21/02/2018		0.03					
4	1/10/2020	0.2		0.01				
5	26/03/2021	0.05		0.01				
6	6/09/2021	0.14		0.005				
7	21/03/2022	0.21	0.01	0.005				
8	6/09/2022	0.17	0.02	0.005				
9	5/12/2022							
10	13/03/2023	0.09	0.02	0.005				
11	12/06/2023							
12	11/09/2023	0.12	0.03	0.005				
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.55	0.38	0.65				
Mann-Kendall Statistic (S):		-10	2	-17				
Confidence Factor:		86.2%	59.2%	97.7%				
Concentration Trend:		Stable	No Trend	Decreasing				



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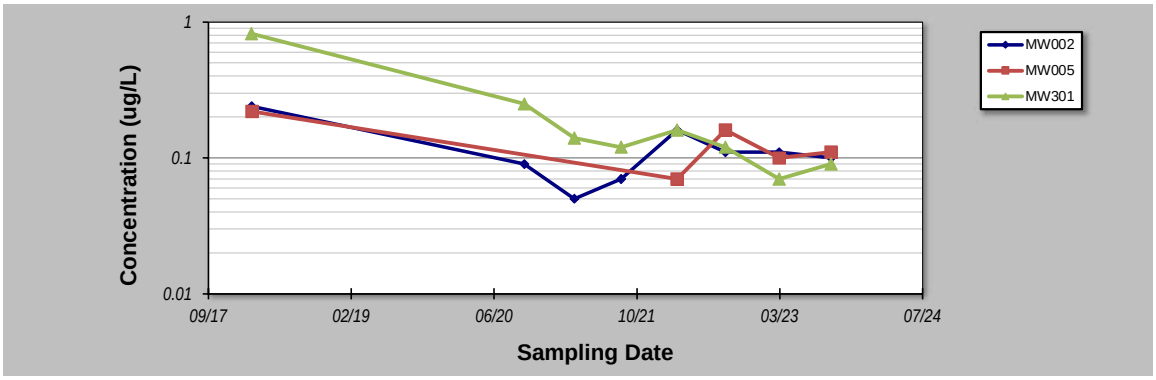
AECOM

Mann Kendall Analysis - Groundwater
Former STP Area

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **11-Jan-24**
Facility Name: **Holsworthy Army Barracks**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOS+PFHxS**
Concentration Units: **ug/L**

Sampling Point ID:	MW002	MW005	MW301				
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	19/02/2018			0.82				
2	20/02/2018	0.24						
3	21/02/2018		0.22					
4	1/10/2020	0.09		0.25				
5	26/03/2021	0.05		0.14				
6	6/09/2021	0.07		0.12				
7	21/03/2022	0.16	0.07	0.16				
8	6/09/2022	0.11	0.16	0.12				
9	5/12/2022							
10	13/03/2023	0.11	0.1	0.07				
11	12/06/2023							
12	11/09/2023	0.1	0.11	0.09				
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.51	0.45	1.12				
Mann-Kendall Statistic (S):		-1	-2	-21				
Confidence Factor:		50.0%	59.2%	99.6%				
Concentration Trend:		Stable	Stable	Decreasing				



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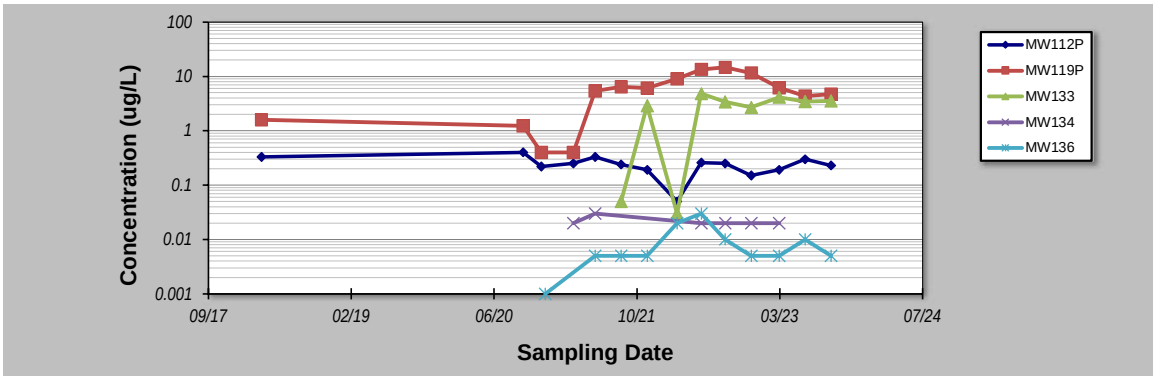
AECOM

Mann Kendall Analysis - Groundwater
Liverpool Fire Station - Perched Aquifer

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-Jan-24
Facility Name: Holsworthy Army Barracks
Conducted By: DDT
Job ID: 60612562
Constituent: PFOA
Concentration Units: ug/L

Sampling Point ID:	MW112P	MW119P	MW133	MW134	MW136		
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	26/03/2018	0.330	1.600					
2	16/04/2018							
3	30/04/2018							
4	11/06/2018							
5	16/07/2018							
6	28/09/2020	0.400	1.220					
7	30/11/2020	0.220	0.400					
8	14/12/2020					0.001		
9	22/03/2021	0.250	0.400		0.020			
10	7/06/2021	0.330	5.400		0.030	0.005		
11	6/09/2021	0.240	6.400	0.050		0.005		
12	6/12/2021	0.190	6.060	2.880		0.005		
13	21/03/2022	0.050	9.020	0.030		0.020		
14	13/06/2022	0.260	13.400	4.800	0.020	0.030		
15	5/09/2022	0.250	14.600	3.390	0.020	0.010		
16	5/12/2022	0.150	11.600	2.690	0.020	0.005		
17	13/03/2023	0.190	6.160	4.120	0.020	0.005		
18	12/06/2023	0.300	4.370	3.440		0.010		
19	11/09/2023	0.230	4.720	3.510		0.005		
20								
Coefficient of Variation:		0.35	0.76	0.60	0.19	0.93		
Mann-Kendall Statistic (S):		-26	32	14	-3	11		
Confidence Factor:		91.3%	95.5%	91.0%	64.0%	77.7%		
Concentration Trend:		Prob. Decreasing	Increasing	Prob. Increasing	Stable	No Trend		



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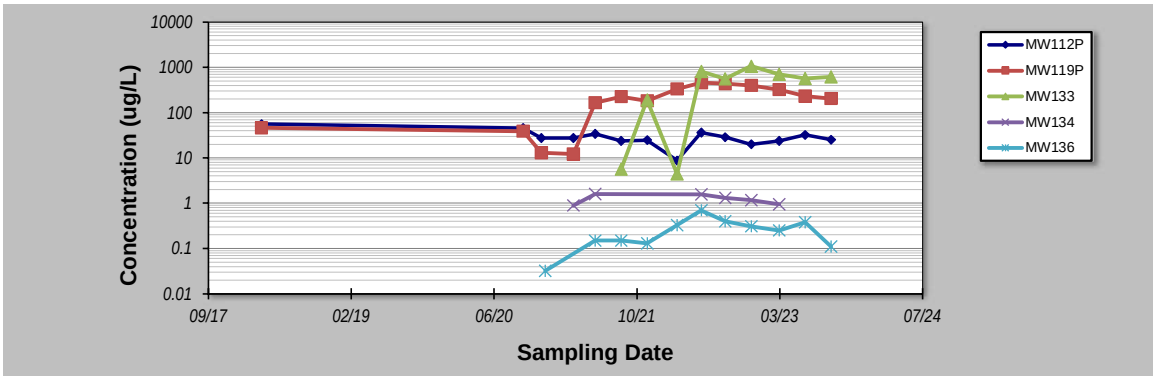
AECOM

Mann Kendall Analysis - Groundwater
Liverpool Fire Station - Perched Aquifer

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-Jan-24
Facility Name: Holsworthy Army Barracks
Conducted By: DDT
Job ID: 60612562
Constituent: PFOS+PFHxS
Concentration Units: ug/L

Sampling Point ID:	MW112P	MW119P	MW133	MW134	MW136		
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	26/03/2018	56.00	46.00					
2	16/04/2018							
3	30/04/2018							
4	11/06/2018							
5	16/07/2018							
6	28/09/2020	45.40	39.10					
7	30/11/2020	27.60	13.00					
8	14/12/2020					0.03		
9	22/03/2021	27.60	12.20		0.89			
10	7/06/2021	33.80	166.00		1.60	0.15		
11	6/09/2021	23.80	226.00	5.64		0.15		
12	6/12/2021	24.70	182.00	190.00		0.13		
13	21/03/2022	8.75	332.00	4.43		0.33		
14	13/06/2022	36.30	457.00	808.00	1.56	0.70		
15	5/09/2022	28.70	438.00	561.00	1.31	0.40		
16	5/12/2022	20.00	400.00	1060.00	1.16	0.31		
17	13/03/2023	23.70	321.00	700.00	0.95	0.25		
18	12/06/2023	32.20	233.00	568.00		0.38		
19	11/09/2023	25.30	205.00	616.00		0.11		
20								
Coefficient of Variation:		0.38	0.71	0.72	0.24	0.70		
Mann-Kendall Statistic (S):		-30	39	14	-5	12		
Confidence Factor:		94.4%	98.2%	91.0%	76.5%	79.9%		
Concentration Trend:		Prob. Decreasing	Increasing	Prob. Increasing	Stable	No Trend		



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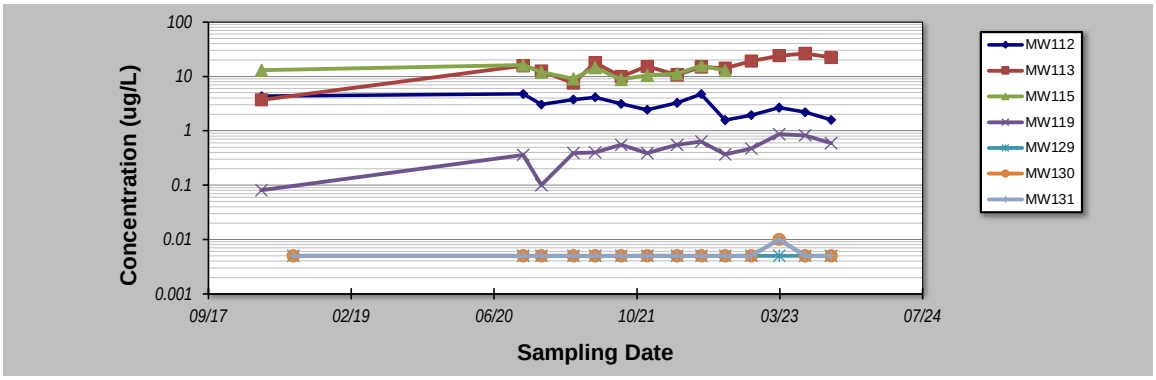
AECOM

Mann Kendall Analysis - Groundwater
Liverpool Fire Station - Alluvial Aquifer

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-Jan-24	Job ID:	60612562
Facility Name:	Holsworthy Army Barracks	Constituent:	PFOA
Conducted By:	DDT	Concentration Units:	ug/L

Sampling Point ID:	MW112	MW113	MW115	MW119	MW129	MW130	MW131
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	26/03/2018	4.30	3.70	13.00	0.08			
2	16/04/2018							
3	30/04/2018							
4	11/06/2018							
5	16/07/2018							
6	28/09/2020	4.75	15.70	16.10	0.36			
7	30/11/2020	3.03	12.40	12.00	0.10			
8	14/12/2020							
9	22/03/2021	3.76	7.56	9.06	0.39			
10	7/06/2021	4.14	17.80	14.40	0.40			
11	6/09/2021	3.12	10.00	8.78	0.55			
12	6/12/2021	2.43	15.20	10.40	0.39	0.005	0.005	0.005
13	21/03/2022	3.25	10.60	11.20	0.55	0.005	0.005	0.005
14	13/06/2022	4.72	14.90	15.70	0.63	0.005	0.005	0.005
15	5/09/2022	1.56	14.20	12.70	0.37	0.005	0.005	0.005
16	5/12/2022	1.93	19.10		0.47	0.005	0.005	0.005
17	13/03/2023	2.65	24.00		0.86	0.005	0.010	0.010
18	12/06/2023	2.19	26.30		0.82	0.005	0.005	0.005
19	11/09/2023	1.58	22.30		0.59	0.005	0.005	0.005
20								
Coefficient of Variation:		0.36	0.41	0.21	0.48	0.00	0.25	0.25
Mann-Kendall Statistic (S):		-47	49	-3	57	0	9	9
Confidence Factor:		99.5%	99.7%	56.9%	99.9%	47.8%	66.6%	66.6%
Concentration Trend:		Decreasing	Increasing	Stable	Increasing	-	-	-



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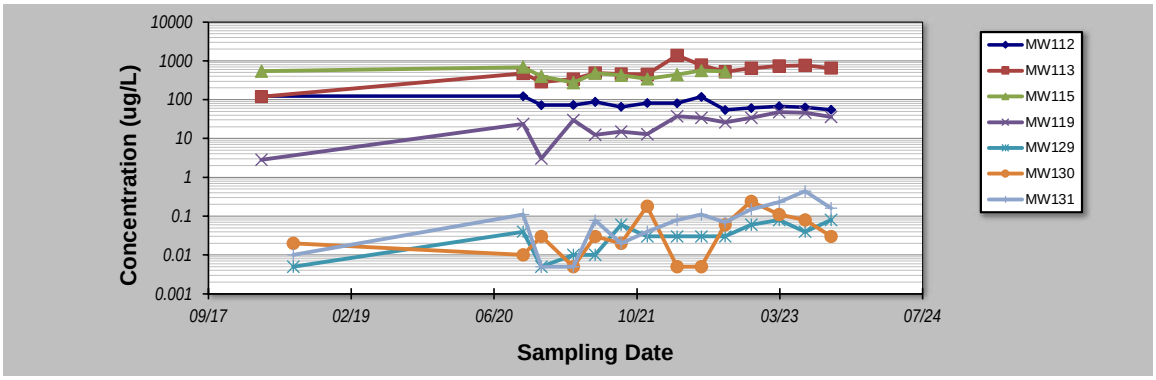
AECOM

Mann Kendall Analysis - Groundwater
Liverpool Fire Station - Alluvial Aquifer

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-Jan-24
Facility Name: Holsworthy Army Barracks
Conducted By: DDT
Job ID: 60612562
Constituent: PFOS+PFHxS
Concentration Units: ug/L

Sampling Point ID:	MW112	MW113	MW115	MW119	MW129	MW130	MW131
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	26/03/2018	122.00	120.00	540.00	2.82			
2	16/04/2018							
3	30/04/2018							
4	11/06/2018							
5	16/07/2018					0.01	0.02	0.01
6	28/09/2020	123.00	478.00	687.00	23.80	0.04	0.01	0.11
7	30/11/2020	72.40	287.00	400.00	3.07	0.01	0.03	0.01
8	14/12/2020							
9	22/03/2021	73.10	336.00	273.00	29.80	0.01	0.01	0.01
10	7/06/2021	87.40	488.00	484.00	12.40	0.01	0.03	0.08
11	6/09/2021	65.20	457.00	424.00	15.00	0.06	0.02	0.02
12	6/12/2021	81.70	449.00	343.00	12.80	0.03	0.18	0.04
13	21/03/2022	80.60	1380.00	441.00	37.40	0.03	0.01	0.08
14	13/06/2022	118.00	780.00	561.00	33.80	0.03	0.01	0.11
15	5/09/2022	54.40	520.00	531.00	25.90	0.03	0.06	0.07
16	5/12/2022	61.10	641.00		34.20	0.06	0.24	0.15
17	13/03/2023	67.60	734.00		47.50	0.08	0.11	0.23
18	12/06/2023	62.80	760.00		46.10	0.04	0.08	0.44
19	11/09/2023	55.10	645.00		36.20	0.08	0.03	0.16
20								
Coefficient of Variation:		0.30	0.52	0.25	0.57	0.70	1.22	1.08
Mann-Kendall Statistic (S):		-45	51	1	57	52	26	57
Confidence Factor:		99.3%	99.8%	50.0%	99.9%	99.8%	91.3%	99.9%
Concentration Trend:		Decreasing	Increasing	No Trend	Increasing	Increasing	Prob. Increasing	Increasing



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Appendix D

SAQP

Prepared for
Department of Defence
ABN: 68 706 814 312

DRAFT

Sampling and Analysis Quality Plan

PFAS OMP - Holsworthy Barracks

24-Aug-2023
PFAS Ongoing Monitoring Program
Doc No. 20230824_OMP002_Holsworthy_SAQP_Rev-J

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Sampling and Analysis Quality Plan

PFAS OMP - Holsworthy Barracks

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8008 1700 www.aecom.com
ABN 20 093 846 925

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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 substances (PFAS) Ongoing Monitoring Plan (OMP) at Holsworthy Barracks (Holsworthy) (the 'Site') (Site ID 0382) and the surrounding off-Site areas, including at the Fire & Rescue NSW Liverpool Fire Station (LFS) (refer to **Figure 1** in **Appendix A**).

This SAQP supports the *PFAS Ongoing Monitoring Plan* (Defence, 2020a), here-in referred to as OMP.

The purpose of the OMP 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 (refer to **Section 2.1.1**).

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, 2020b).

Note that the initial 3-year monitoring period was completed in June 2022, and this SAQP covers the monitoring for the two-year extension period, between July 2022 and June 2024.

1.2 SAQP Objectives

The objectives of this SAQP are to:

- define the proposed scope of works in detail
- outline the proposed sampling methodology to be adopted
- outline the proposed quality assurance and quality control (QA/QC) measures to be adopted
- define the 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:

- monitor the nature and extent (spatial and temporal) of PFAS impact in groundwater and surface water pathways associated with site sources of PFAS derived from the historical use of aqueous film forming foam (AFFF)
- monitor the migration of PFAS in groundwater and surface water from the Site, utilising newly obtained and historical data
- provide confirmation of the current understanding of risk
- provide supporting data for assessment of management actions, 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.

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- 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

Defence commenced an environmental investigation of PFAS at Holsworthy and the surrounding areas in June 2017. This investigation has involved Preliminary and Detailed Site Investigations (CH2M, 2018) as well as a Human Health and Ecological Risk Assessment (HHERA) and subsequent Addendum to the HHERA (CH2M, 2020 and 2021). These reports detailed the nature and extent of PFAS at the Site, as well as the associated risks pertaining to PFAS contamination from legacy use of AFFF.

The PMAP (Defence, 2020) was subsequently developed and includes the overall purpose and requirements of the OMP.

Additionally, to date, the following reports have been prepared under the OMP:

- 11 OMP Sampling Event Factual Reports (AECOM, 2021a to 2021e, 2022a, 2022c to 2022e, 2023a and 2023b).
- 1 OMP Annual Interpretive Reports (AECOM, 2022b).

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2.0 Site Setting

2.1 Site Description

The Site has been a training area and artillery range for the Australian Army since the First World War. The Site has been used as an artillery range since 1913 with the first barracks developed in 1951. Following the Second World War, the Site became a major property for the permanent component of the Australian Army in New South Wales.

The Site is located approximately 25 kilometres (km) southwest of the Sydney central business district within a broader rural, agricultural and public open space (National Park and State Forest) setting. The Site features include:

- an airfield (Luscombe Airfield) and associated buildings
- operations, training, maintenance and administrative facilities
- generally unsealed road verges and non-operational areas
- surface drains and creeks, including Harris Creek, Williams Creek and Complete Creek that drain surface water from the Site in a northerly direction to Anzac Creek and Georges River.

The Liverpool Fire Station (LFS) is located to the north of the Site, in a mixed industrial and residential area. The LFS was previously operated by the Australian Army but was transferred to Fire & Rescue NSW in 2000. Fire & Rescue NSW continue to operate the property as an active fire station.

These areas are presented on **Figure 1** in Error! Reference source not found..

2.1.1 Management Area

The Management Area is defined in the PMAP (Defence, 2020b) as on-Site and off-Site areas where the PFAS sources were identified as follows:

- On-Site:
  - Luscombe Airfield.
  - Former Sewage Treatment Plant (STP) Area.
  - Former 85 Transport Area.
- Off-Site:
  - Liverpool Fire Station and surrounding area.

The PMAP (Defence, 2020b) also notes that, given access to the residential properties around LFS was constrained, sampling to delineate the extent of PFAS impacts in soil, groundwater and home-grown produce for this area was not possible.

2.1.2 Regional Meteorology

The Bureau of Meteorology (BoM) at Holsworthy Control Range (station number: 067117) ceased operations in 2014, however, Bankstown Airport AWS (station number: 066137), located approximately 5.8 km north-west, has been operational since 1968 and is considered to be at an adequate distance for climate statistics on Site. The following is a summary of temperature and rainfall data from this station:

- Mean monthly maximum temperatures have varied from 8.5 °C in January to 17.4 °C in July.
- Mean rainfall is 890.5 mm per annum.
- Mean monthly rainfall is highest between February (109.6 mm) and March (115.0 mm) and lowest in the three months between July and September, recording monthly rainfall averages of 47.8 mm

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2.1.3 Topography and Geology

The Site and surrounding areas are located in the upper Georges River catchment and characterised by variable topography, ranging from gradual crests, ridges and plateaus (relief between 10 to 50 m, and slopes <10%) to steep inclines and hills (relief between 100 to 200 m and slopes >50%) (Defence, 2020a). Additionally, there is also a slight west to east/north-east gradient that slopes towards the Anzac Creek.

Surface elevations are greatest to the south at over 300 m Australian Height Datum (AHD), and decrease precipitously towards the north, which are typically less than 10 m AHD. Liverpool Fire Station is at an elevation of approximately 14 m AHD.

The Site and its surroundings are underlain by Triassic bedrock which comprises of Hawkesbury Sandstone, the Wianamatta Group and the Mittagong Formation, although the Mittagong Formation is generally absent from Holsworthy. The bulk of the Site is underlain by the Hawkesbury Sandstone (Defence, 2020a).

According to the Department of Planning and Environment Acid Sulfate Soils map, soils at the Site are in a mix of Class 2, 3, 4 and 5 areas. Of these, Class 2 represents the greatest risk due to the high likelihood of acid sulfate soils (ASS) being present below the natural ground surface. Most of the Site which spans the main barracks, Luscombe airway and the former 85 transport area are categorised as Class 2. Class 5 land is present along the northern and north-eastern boundary.

2.1.4 Hydrogeology

The hydrogeology in Holsworthy is varied and groundwater can occur within less than a metre below ground level (bgl) to more than 15 m bgl. Previous investigations have identified highly localised areas of shallow perched groundwater within fill material, and elsewhere across the Site, groundwater is present within the alluvial soil, sandstone (Hawkesbury Sandstone) or shale bedrock (Ashfield Shale) (Defence 2020a). As the shale material is largely discontinuous, the groundwater coming from this hydrogeologic unit has been postulated to be perched and separate from the sandstone.

Aquifer recharge is predominantly via rainfall and can also be attributed to infiltration via surface run-off and inter-aquifer leakage.

A registered bore search within 2 km of the Site conducted in July 2017 (CH2M, 2018) indicated the presence of 127 bores, with 116 listed as being used for monitoring purposes. The limited functionality of these groundwater bores can be attributed to the low yielding sandstone/shale units that characterises much of the hydrogeology in Holsworthy area.

2.1.5 Vegetation

The vegetation on-Site that have been identified as being of potentially high value are in areas which may have received PFAS as follows (Defence, 2020a):

- Cumberland Plain Shale Woodlands and Transition Forests – Commonwealth listed as critically endangered. Present in areas adjacent to Luscombe Airfield and along Harris Creek.
- Small-flower Grevilea – Commonwealth listed as vulnerable. Found along Harris and Williams Creek.

Located outside of the Site is Voyager Point Wetland, which is a nationally important wetland that hosts vegetation communities not well protected in the region, including the Nodding geebung, which is a Commonwealth and NSW listed endangered species.

2.1.6 Surface Water and Drainage

The surface water drainage system at the Site is extensive, with most of the infrastructure in the main barracks area. The majority of the stormwater drains discharge to Harris or Williams Creek. The exception is the north-west portion where run-off is directed to the northern section of Anzac Creek. The Site has been subjected to considerable development works and drainage patterns continue to be modified as a result (Defence, 2020a).

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According to a previous Detailed Site Investigation (DSI) conducted by CH2M (2018), rain and stormwater are also captured in retention ponds, treated and then supplied as 'grey water' via a dedicated line to be used for toilet flushing and landscaping. Additionally, water is also harvested from selected stormwater ponds, and subsequently treated before being used to irrigate the recreational fields and grassy areas

2.1.7 Current Surrounding Land Use

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

- North: A mix of industrial and low to medium density residential communities. Bankstown Airport, as well as several landfills and waste facilities are located north.
- South: Heathcote National Park and the Sydney Water catchment prohibited area.
- East: Heathcote National Park followed by industrial estates (which include Lucas Heights Landfill and ANSTO). The Georges River National Park lie in the north-east corner.
- West: Georges River followed by a mix of residential and industrial properties.

2.2 Conceptual Site Model

The Conceptual Site Model (CSM) is presented in the PMAP (Defence, 2020b), which summarises the linkages between sources, exposure pathways and receptors. 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).

Further assessments of risk exposure pathways were presented in the HHERA (CH2M, 2020) and the Addendum HHERA (CH2M, 2021).

The HHERA identified a number of potential unacceptable risks to human health, which included but 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 elevated PFAS concentration rainwater that were collected in tanks and used to irrigate gardens.
- Consumption of recreationally caught finfish and other aquatic biota from the Georges River.
- Consumption of home grown produce at properties near LFS.

The HHERA identified a number of potential unacceptable risks to ecological receptors, which included but were not limited to:

- Toxicity to aquatic organisms from direct exposure to PFAS in surface waters. Applicable to the Former 85 Transport Area, the Former Luscombe Sewage Disposal Area and the Cantonment and Driver Training area.
- Bioaccumulation of PFAS in higher order aquatic ecology as a result of consumption of smaller organisms who have been already exposed to PFAS.

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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 following seven steps:

Table 1 The seven steps in defining DQOs

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

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

3.1.1 Step 1 – State the Problem

PFAS source areas at the Site and the LFS are contributing to the presence of PFAS in surface water off-Site. This has led to risks to human health and the environment.

Actions will be implemented to reduce these risks.

Monitoring is needed to assess the effectiveness of these actions and to provide data for future risk management.

3.1.2 Step 2 – Identify the Goal of the Study

The principal objectives of the OMP are to:

- further refine the understanding of the distribution and variability of PFAS in the environment.
- monitor changes due to management actions and other conditions such as seasonal variations.
- collect data to inform future management actions.

3.1.3 Step 3 – Identify Information Inputs

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

- existing data relevant to PFAS in soil and waters obtained through the DSI(Jacobs, 2018) and HHERA.
- surface water and groundwater flow regimes identified in the DSI.
- location and types of human and environmental receptors as defined in the DSI and HHERA.

3.1.4 Step 4 – Define the Boundaries of the Study

The study area for the OMP includes surface water and groundwater at the Site and surrounds as well as the key surface water drainage pathways.

There are a number of identified non-Defence PFAS sources within the broader catchment discharging to the Georges River (Defence, 2020a) and therefore the OMP does not include sampling in the Georges River except around the inferred overland flow discharge from the Former 85 Transport Area.

In relation to groundwater, sampling will be conducted in source areas and at locations within and along the northern boundary of the Cantonment and Driver Training Area in order to identify potential migration of PFAS impacted groundwater to off-property areas.

In relation to temporal boundaries, sampling will be completed between September 2021 and June 2024.

3.1.5 Step 5 – Develop the Analytical Approach

The purpose of this step is to define the parameters of interest, specify action levels and combine the outputs of the previous DQO steps to develop a series of options if certain trigger events occur.

The key decision rules for the OMP are:

1. Have the analytical data collected as part of the OMP met the Data Quality Indicators (DQI) developed as part of the SAQP? If yes, then the data can be used for decision making. If no, then an assessment of the need to collect additional data will be required.
2. Does the data indicate a change to the risks defined in the DSI and HHERA? If yes, then further risk assessment will need to be carried out. This may lead to a need to revise the PMAP. If no, then continue monitoring as per the OMP.
3. Does the data conform with the CSM as outlined in the PMAP? If yes, then continue monitoring as per the OMP. If no, then further risk assessment will need to be carried out. This may lead to a need to revise the PMAP.
4. Is the data meeting the DQOs as outlined in the OMP? If yes, then continue monitoring as per the OMP. If not, then a revision to the OMP should be undertaken.

Additional trigger levels for the OMP are discussed in Section 4.3 of the OMP.

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

The investigation criteria adopted for the DSI will be used to determine if data collected as part of the OMP indicates a change in the risk to human health or environmental receptors. It is noted that guideline values for PFAS in recreational water have been revised by NHMRC (2019) and HEPA (2020) since the DSI and therefore these revised guidelines will be used.

As data is collected for the OMP, an analysis of trends will be undertaken with potential outliers identified. This analysis will include data collected as part of the DSI and HHERA as well as consideration of whether the data is reasonable in relation to the CSM.

As more time series data is collected, a statistical approach to determining acceptance criteria may become possible.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

The plan for obtaining data has been developed in accordance with relevant guidelines through targeted monitoring of potential source-pathway-receptors.

Optimisation of the data collection process will be achieved by:

- working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate.
- conducting sampling according to Defence and Australian Standards for the type of sampling being conducted. These standards are as follows:
  - Department of Defence *Contamination Management Manual* (March 2018, Amended August 2019),
  - Standards Australia (AS/NZS5667.11–1998) *Water Quality – Sampling, part 11: Guidance on sampling of groundwater,*
  - Standards Australia (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*
- 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.
- 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 in 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.
- 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 an annual review of the SAQP across the two-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; and
- data quality – comparability, representativeness, precision and accuracy of the analytical data.

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

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

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Table 2 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
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). Concentrations of PFAS should 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 RPDs will be assessed as acceptable if less than or equal to 30% as per the NEPM Schedule B3. Where the results show greater than 30% difference a review of the cause will be conducted (NEPM, 2013). It is noted that RPDs that exceed this range may be considered acceptable where: • results are less than 10 times the LOR (no limit) • results are less than 20 times the LOR and the RPD is less than 50% • 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 laboratory-specified range for each particular analyte/analytical suite.

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4.0 Sampling Location Rationale and Methodology

4.1 OMP

The OMP 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 generally consistent with that detailed in the OMP.

Deviations from the OMP are presented in **Table 10**, **Section 5.0**.

4.2 Proposed Schedule

The OMP outlines the monitoring, as follows:

- surface water and groundwater monitoring at all locations (excluding locations around the LFS) is to be undertaken twice per year:
  - once during the February to March period when rainfall is slightly higher; and
  - once during the remainder of the year.

  One of the monitoring rounds is to be conducted during a dry period and the other conducted during or shortly after a rainfall event. The initial biannual surface water and groundwater monitoring event is scheduled to be completed in September 2020.
- in relation to the surface water and groundwater monitoring around the LFS, during the initial 12-month monitoring period, the sampling will be undertaken at a three-monthly frequency. Following the first year, the surface water and groundwater data will be reviewed to determine an ongoing sampling frequency.

  The initial quarterly surface water sampling round and groundwater monitoring event was completed in September 2020.

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

Table 3 Proposed Fieldwork Schedule

Sampling Round No.	Description of works	Proposed Schedule
1	Bi-annual surface water and groundwater sampling. Quarterly surface water and groundwater sampling (LFS).	September 2020
2	Quarterly surface water and groundwater sampling (LFS).	December 2020
3	Bi-annual surface water and groundwater sampling. Quarterly surface water and groundwater sampling (LFS).	March 2021
4	Quarterly surface water and groundwater sampling (LFS).	June 2021
5	Bi-annual surface water and groundwater sampling. Quarterly surface water and groundwater sampling (LFS).	September 2021
6	Quarterly surface water and groundwater sampling (LFS)*.	December 2021
7	Bi-annual surface water and groundwater sampling, quarterly surface water and groundwater sampling (LFS)*.	March 2022
8	Quarterly surface water and groundwater sampling (LFS)*.	June 2022
9	Bi-annual surface water and groundwater sampling. Quarterly surface water and groundwater sampling (LFS).	September 2022
10	Quarterly surface water and groundwater sampling (LFS).	December 2022
11	Bi-annual surface water and groundwater sampling.	March 2023

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Sampling Round No.	Description of works	Proposed Schedule
	Quarterly surface water and groundwater sampling (LFS).	
12	Quarterly surface water and groundwater sampling (LFS).	June 2023
13	Bi-annual surface water and groundwater sampling. Quarterly surface water and groundwater sampling (LFS).	September 2023
14	Quarterly surface water and groundwater sampling (LFS).	December 2023
15	Bi-annual surface water and groundwater sampling, quarterly surface water and groundwater sampling (LFS).	March 2024
16	Quarterly surface water and groundwater sampling (LFS).	June 2024

*Review data from 1st year to confirm ongoing sample event frequency.

Ad hoc sampling will be undertaken upon request from Defence, as per comms during the project Kick Off Meeting on 2 July 2020.

4.3 Sampling Locations

4.3.1 Groundwater Sampling Locations

The groundwater locations to be monitored on a quarterly and/or bi-annual basis are provided in **Table 4** below and are presented on **Figure 2** in **Appendix A**.

Note that the monitoring well IDs presented in the OMP have been updated to comply with Defence Contamination Management Manual (DCMM) nomenclature requirements.

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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	Total
On-Site	Cantonment and Driver Training Area	MW120	BH120	307980.150	6239724.500	17.270	11.5 - 14.5	Bi-annual	7
		MW121	BH121	308518.290	6239747.260	16.470	15.3 - 18.3	Bi-annual	
		MW122	BH122	310079.650	6239896.920	18.540	11.5 - 14.5	Bi-annual	
		MW123	BH123	310934.050	6239938.200	7.070	2 - 6	Bi-annual	
		MW124	BH124	312243.910	6239806.730	6.390	2 - 5	Bi-annual	
		MW323	BH345	310790.680	6238833.630	36.380	unknown	Bi-annual	
		MW349	BH612	311605.910	6238811.030	18.420	3.9 - 8.2	Bi-annual	
	Former 85 Transport Area	MW117	BH117	307299.790	6239293.450	18.130	13 - 17.5	Bi-annual	2
		MW330	BH365	307817.340	6238845.610	29.530	unknown	Bi-annual	
	Former STP Area	MW002	MW02	311989.588	6240689.883	3.530	unknown	Bi-annual	3
		MW005	MW05	311709.959	6240985.121	3.157	unknown	Bi-annual	
		MW301	MW1	311957.110	6240475.972	3.383	unknown	Bi-annual	
Off-Site	Liverpool Fire Station and surrounds	MW112	BH112	308827.830	6242011.630	13.420	10.3-13.3	Quarterly	12
		MW112P	BH112_P, MW112_P	308826.490	6242011.910	13.430	2 - 5	Quarterly	
		MW113	BH113	308876.090	6242099.520	13.460	10.9 - 14.9	Quarterly	
		MW115	BH115	308832.110	6242106.070	14.080	10.1 - 13.1	Quarterly	
		MW119	BH119	*	*	11.010	8-11	Quarterly	
		MW119P	BH119_P, MW119_P, MW119S	*	*	11.120	2 - 5	Quarterly	

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On/Off-Site	Area	Location ID	Historical Name	Easting	Northing	Top of Casing Elevation (m AHD)	Screen Interval (mbgl)	Sampling Frequency	Total
		MW129		*	*	9.526	5-8	Quarterly	
		MW130		*	*	12.986	6 - 9	Quarterly	
		MW131		*	*	12.179	7-10	Quarterly	
		MW133	MW133P	*	*	13.350	2-4	Quarterly	
		MW134	MW134P	*	*	13.210	1.9-3.9	Quarterly	
		MW136	MW136P	*	*	11.860	2.25-4.25	Quarterly	

Note: Historical Name, Eastings, Northings, Top of Casing Elevation and Screen Interval are sourced from Defence Esdat database.

*Coordinates are not displayed for privacy reasons.

The rationale for each sampling location is presented in the OMP.

4.3.2 Surface Water Sampling Locations

The locations to be monitored on a quarterly and/or bi-annual basis are provided in **Table 5** below and are presented on **Figure 3** (in **Appendix A**).

Note that the location IDs presented in the OMP have been updated here to comply with DCMM nomenclature requirements.

Table 5 Surface Water Sampling Locations

On/Off-Site	Area	Location ID	Easting	Northing	Sampling Frequency	Total
On-Site	Former 85 Transport Area and Georges River	SW063	307171.973	6239690.639	Bi-annual	4
		SW103	307799.850	6238850.840	Bi-annual	
		SW104	307797.620	6238850.750	Bi-annual	
		SW105	307796.080	6238852.690	Bi-annual	
	Luscombe Airfield	SW030	311021.365	6235897.542	Bi-annual	2
		SW038	311304.190	6237089.320	Bi-annual	
Off-Site	Former 85 Transport Area and Georges River	SW025	307092.405	6239136.649	Bi-annual	2
		SW062	307064.108	6238548.817	Bi-annual	
	Former STP Area	SW011	312089.255	6240650.658	Bi-annual	4
		SW012	311975.148	6240955.779	Bi-annual	
		SW014	312519.056	6241208.513	Bi-annual	
		SW017	311626.230	6241030.249	Bi-annual	
	Liverpool Fire Station and surrounds	SW001	308867.480	6242016.780	Quarterly	3
		SW059	309636.439	6242152.009	Quarterly	
		SW111	309356.120	6241898.415	Quarterly	
	Williams Creek	SW009	312310.870	6239846.890	Bi-annual	1
	Harris Creek	SW015	310991.971	6240044.828	Bi-annual	1

Note: Historical Name, Eastings, Northings, Top of Casing Elevation and Screen Interval are sourced from Defence Esdat database. The rationale for each sampling location is presented in the OMP.

4.4 Sample Collection and Handling

4.4.1 Sampling Methodology

The sampling methodology is presented in **Table 6**.

Table 6 Sampling Methodology and Schedule

Item	Details
Groundwater gauging	The depth to groundwater will be measured in each monitoring well prior to collection of groundwater samples. The following locations may be tidally influenced, hence the gauging is proposed to be undertaken on an outgoing tide: **MW301**, **MW002**, and **MW005**.

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Item	Details
Groundwater Sample Collection Methodology	**Groundwater Monitoring Wells** Groundwater samples will be collected from monitoring wells using no-purge methodology with HydraSleeves™ which will be installed within the screened interval of the wells 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 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. The following locations may be tidally influenced, hence sampling proposed to be undertaken on an outgoing tide: **MW301**, **MW002**, and **MW005**.
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. Description of each sampling location will be recorded (including physical setting, flow observations, presence of sheen or foam, etc.).
QA/QC Samples to be Collected	Field QA/QC samples will 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 3.2.** AECOM will collect extra sample volume to enable the laboratory to complete their internal QA/QC analysis. AECOM personnel will attempt to reduce potential heterogeneity in the sample media matrix by dividing the sample collected between primary and intra-laboratory jars or bottles during sampling.

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Item	Details
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), ORP (oxidation-reduction potential), 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.
Sample Analysis	All primary samples will be submitted for a standard PFAS suite using the standard laboratory LORs.

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. All water samples should be kept, where 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 chain of custody (CoC) procedures. Primary and associated duplicate QA/QC samples will be analysed by Australian Laboratory Services (ALS). The inter-laboratory duplicate samples will be analysed by Envirolab Services (Envirolab).

4.5 Calibration

The calibration of the water quality meter 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 Sydney prior to the commencement of fieldwork. All samples will be transported by field staff or couriered directly to the relevant laboratory at the completion of fieldwork. All inter-laboratory duplicate samples will be submitted under a separate COC for analysis.

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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 standard PFAS suite in accordance with the Defence (2022) *Standard PFAS Analytical Suite - Guidance Document E* (**Appendix B**).

The current standard laboratory limits of reporting (LOR) are described in **Table 7** below.

Table 7 Laboratory Limits of Reporting

Sample Media	Parameter	Technique/Method Reference	LOR*
Water	Standard PFAS Suite	LCMS	0.01 – 0.1 µg/L

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 or new exceedances of human health guidelines.

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. 0382_MW001_191015

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

Location types relevant to this SAQP include:

- MW = monitoring well
- SW = surface water

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.

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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.

AECOM will ensure that field data is uploaded, and laboratory data is uploaded and approved into the EDMS and that QA/QC data is correctly reconciled for each monitoring event.

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*. This document is based on the works undertaken by FSANZ (FSANZ, 2017).
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Wate*r. August 2019 (NHMRC, 2019).

The screening criteria adopted to assess the data generated as part of this SAQP are presented in **Table 8** and **Table 9** below, for human and ecological receptors respectively.

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Table 8 PFAS Adopted Screening Criteria – Human Receptors

Media	Pathway	Compound	Criteria	Comment/Reference
Water – Groundwater and Surface Water	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 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. *All groundwater and surface water results will be 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 by the HEPA NEMP 2.0 (2020). *All surface water results will be compared to these criteria.*
		PFOA	10 µg/L	

Table 9 PFAS Adopted Screening Criteria – Ecological Receptors

Media	Pathway	Compound	Criteria	Comment/Reference
Water – Groundwater and Surface Water	Freshwater	PFOS	0.13 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. The 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results will be compared to these criteria.*
		PFOA	220 µg/L	

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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^{TM}, general rubbish) will be bagged and placed in on-Site general waste bins for disposal.

4.12 Quality Assurance/Quality Control Sampling

4.12.1 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 and HEPA (2020).

4.12.2 Rinsate Samples

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

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.
- 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

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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 Chain of Custody (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 CoC form will be signed by both the sample collector and the receiving laboratory.

The CoC form will include the following information:

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

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

Upon receipt of the original documents accompanying the samples at the laboratory, the laboratory will provide a sample receipt document (noting the temperature of samples upon receipt, analyses required and any non-conformances) and return the signed CoC form 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

AECOM will prepare and submit a Sampling Event Factual Report to Defence following the completion of each sampling event. The Sampling Event Factual Report will be prepared in accordance with Defence *PFAS OMP Factual Report Guidance* (Defence, 2021) and will include:

- details of the scope completed
- details of the analytical suite for PFAS analytes
- 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 or groundwater), water quality parameter measurements
- a summary of any changes to the monitoring network condition that may affect data integrity, or require rectification works, and recommendations for repair, replacement or decommissioning of a location
- 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 following receipt of all laboratory results. AECOM will inform Defence in the case of delays in laboratory results.

4.14.2 Annual Interpretive Report

At the end of each 12-month monitoring period, AECOM will prepare and submit an Annual Interpretive Report to Defence. The Annual Interpretive Report will be prepared in accordance with Defence *PFAS OMP Annual Interpretive Report Guidance* (Defence, 2022a) and will include:

- evidence of compliance or a summary of deviations to the requirements of the SAQP.
- 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 or decommissioning of a location
- contextual and ancillary information that have occurred in the Management area which may affect monitoring results including remediation projects, infrastructure projects and significant weather events.
- relevant figures depicting sampling locations and site-specific hydrogeological features
- laboratory results and analysis including comparison with relevant screening criteria
- assessment and commentary on appropriate QA/QC procedures
- data interpretation, including trends in groundwater concentration, gradient and flow directions
- assessment of statistically based trends (as described in Step 3 and 5 of the DQOs) that may inform decision making when it comes to the revision of the OMP 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.
- overall summary of the changes and extent of PFAS and whether monitoring has met objectives of the OMP.
- Inclusion of the following information as attachments:
  - past OMP factual reports
  - SAQP.

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5.0 Deviations from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP, a number of points of deviation are noted (refer to **Table 10** below).

Table 10 Deviations from OMP

No.	Description	Rationale
1	Adoption of Revised Recreational Screening Criteria for PFOS+PFHxS and PFOA	Following the release of the OMP in April 2020, the National Health and Medical Research Council (NHMRC), published guidance on PFAS in Recreational Water. The adopted screening criteria for PFOS+PFHxS and PFOA in surface water have therefore been revised to 2 µg/L and 10 µg/L, respectively. This is reflected in **Table 8** of the SAQP.
2	Surface water and groundwater sample location IDs	A number of surface water and groundwater sampling location IDs have been renamed to comply with DCMM Nomenclature requirements. The new location IDs are presented in the SAQP text and figures.
3	Reporting requirements	The reporting requirements outlined in the OMP were superseded by the reporting requirements provided in the OMP Order (2.5.6, received 10 September 2020). The revised reporting is included in this SAQP.
4	Sampling Locations Omitted from OMP Figures 1 and 2	The monitoring locations, namely MW113 and MW115 were listed in Section 3 of the OMP as proposed sampling locations, however they were not presented on the Figures 1 and 2 in the OMP. This omission is likely to be an oversight and therefore these locations have now been included in the SAQP figures.
5	Surface water sampling methodology	The OMP states that surface water samples should be collected from either mid-way through the water column or approximately 0.5 m below the surface (if possible). The surface water sampling methodology undertaken at other Sites being monitored in the PFAS OMP has been adopted for consistency. This involves collecting a sample immediately below the water surface to minimise collection of sediment or floating materials in the samples. This approach is consistent with the Australian Water Quality Guidelines, which advises to '*immerse a sample bottle by hand to just below the surface (typically 0.25 to 0.50 m depth) and hold the sampler downstream of where the sample is to be collected*'.
6	Removal of monitoring wells MW317 and MW326	On 3 December 2020, Defence instructed AECOM to remove monitoring wells MW317 and MW326 from the OMP scope of works as they are not considered to be critical well locations. These locations are not included in the SAQP.

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No.	Description	Rationale
7	Non-PFAS analysis	On 27 January 2021, Defence instructed AECOM to discontinue the analysis of samples for non-PFAS analytes unless it was specifically requested in the OMP or approved by Defence. Analysis of samples for non-PFAS analytes has been removed from this SAQP.
8	Installation of wells targeting perched groundwater at LFS	On 16 March 2021, the Lead Consultant (Jacobs) informed AECOM that monitoring wells MW133P, MW134P and MW136P had been installed. However, the proposed wells MW126P, MW130P, MW131P and MW135P were not installed, and have been removed from the OMP scope of works. Monitoring wells MW133P, MW134P and MW136P have been included in this SAQP.
9	Renaming wells MW133P, MW134P and MW136P, MW112_P and MW119_P	On 5 May 2021, the Lead Consultant (Jacobs) informed AECOM that monitoring well location IDs MW133P, MW134P and MW136P have been renamed to align with DCMM nomenclature requirements. These monitoring wells are now identified as MW133, MW134 and MW136, respectively. Additionally, MW112_P and MW119_P have also been renamed as MW112P and MW119P, respectively to comply with DCMM.
10	Replacement of MW361	Following the flood event in March 2021, AECOM was unable to locate monitoring well MW361 at the Former Sewage Disposal Area during the March 2021 and September 2021 monitoring events. It is likely that this monitoring well has been destroyed. In consultation with the Lead Consultant (Jacobs), MW361 has been replaced with the nearby monitoring well MW005 in the SAQP.
11	Removal of Sampling Locations	During OMP sampling events in September 2020, March 2021 and September 2021, no surface water was observed between the Former 85 Transport Area and Anzac Creek (indicating no observable surface water pathway exists). Therefore, no samples were collected at SW110. Following the completion of the Annual Interpretive Report – 2021 (AECOM 2022b) it was found that due to a location coordinate error in the Defence ESdat database, AECOM had collected samples from an incorrect location at SW029 during the September 2020, March 2021 and September 2021 OMP events. Subsequently, Defence has directed AECOM to remove SW029 from the OMP scope noting that the Lead Consultant (Jacobs) would undertake monitoring in the original intended location (Harris Creek) during future works. In consultation with Defence and the Lead Consultant (Jacobs), surface water locations SW029 and SW110 have been removed from the SAQP.

D R A F T

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D R A F T

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Appendix A

Figures

AECOM

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0 360 720 m

Legend

- Defence Site Boundary
- Primary Source Area
- Waterbody/Watercourse

FIGURE 1:
STUDY AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Holsworthy Barracks (0382)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

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N

0 380 760 m

Legend

- Defence Site Boundary
- Primary Source Area
- Waterbody/Watercourse
- Groundwater Sample Location

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

FIGURE 2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Holsworthy Barracks (0382)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

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N

0 380 760 m

Legend

- Defence Site Boundary
- Primary Source Area
- Waterbody/Watercourse
- Surface Water Sample Location

FIGURE 3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling and Analysis Quality Plan
Holsworthy Barracks (0382)

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
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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 Factual Reports

Prepared for
Department of Defence
ABN: 68706814312

DRAFT

Sampling Event Factual Report, December 2022

PFAS OMP - Holsworthy Barracks

03-May-2023
Doc No. 20230503_OMP002_Holsworthy_SamplingEventFactualReport_Rev0

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Sampling Event Factual Report, December 2022

PFAS OMP - Holsworthy Barracks

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8008 1700 www.aecom.com
ABN 20 093 846 925

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

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Table of Contents

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List of Tables (in Text)

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List of Acronyms

Acronym	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
AHD	Australian Height Datum
AIR	Annual Interpretive Report
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
LFS	Liverpool Fire Station
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
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

D R A F T

Acronym	Term
QA/QC	Quality Assurance and Quality Control
RPD	Relative Percentage Difference
SAQP	Sample and Analysis Quality Plan
SD	Sediment
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	MicroSiemens 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

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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 Holsworthy Barracks (the 'Site') in the New South Wales (NSW) and Jervis Bay Territory (JBT) Region. The location of the Site & surrounding areas is shown in **Figure F1** in **Appendix A**.

The OMP (Defence, 2020a) outlines the sampling requirements for the Site and off-Site areas.

Following each sampling event, factual sampling event reports will be prepared. Annual interpretive reports will be prepared following the completion of each 12-month sampling period.

This Sampling Event Factual Report has been prepared to report the results of the December 2022 quarterly 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).

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2020a) 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, 2020b).

The objective of this phase of works was to implement the scope of works for the December 2022 quarterly sampling event in accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2022).

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2.0 Scope of Work

The scope of works was completed generally in accordance with the SAQP (AECOM, 2022), as follows:

- obtain permission (where required) to conduct works at off-site publicly accessible areas and commercial properties, including the Liverpool Fire Station (LFS)
- gauging of groundwater level in monitoring wells prior to collection of samples
- groundwater sampling and collection of water quality parameters at 11 of 12 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations)
- surface water sampling and collection of water quality parameters at all 3 scheduled surface water locations (refer to **Table 2** below and **Figure F3** in **Appendix A** for specific locations)
- collection of field duplicate samples at a rate of 1 in 10 primary samples
- analysis of samples for PFAS suite 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.

Note: due to privacy considerations, selected monitoring locations are unable to be shown on the figures in **Appendix A**.

Table 1 Groundwater Sampling Locations

Area	Description	Sampling Locations	Total
Off-site Road Reserve	Off-site road verges associated with Liverpool Fire Station	MW112, MW112P, MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136	10
Off-site Commercial Property	Liverpool Fire Station	MW113, MW115*	2
Total			**12**
* Location not sampled			

Table 2 Surface Water Sampling Locations

Area	Description	Sampling Locations	Total
Off-site	Liverpool Fire Station	SW001, SW059, SW111	3

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3.0 Deviations from the SAQP

The December 2022 quarterly sampling event was completed in general accordance with the SAQP (AECOM, 2022) with the exception of the deviations outlined in **Table 3** below.

Table 3 Deviations from SAQP (AECOM, 2022)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, and associated gauging data and field parameters, were not collected from 1 of the 12 scheduled groundwater monitoring wells.	Groundwater monitoring well MW115 was not accessible due to a demountable building being placed over the well and could not be gauged and sampled during this event.	The lack of gauging and sampling data for MW115 is not considered to have a significant impact on the data or present a significant data gap, as another monitoring well with a similar installation depth (MW113) was gauged and sampled within the LFS. Generally, elevation data and PFAS concentrations in MW113 and MW115 have been similar across sampling events.
Field parameters were not collected at 1 of the 11 sampled groundwater monitoring wells.	Due to insufficient water in the Hydrasleeve™ installed at the groundwater monitoring well MW134, geochemical parameters were unable to be collected.	The lack of geochemical parameters at this location is not considered to have a significant impact on the outcomes of the OMP, as geochemical parameters are not critical to the assessment and interpretation of PFAS concentrations at the location.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the December 2022 quarterly sampling event was in general accordance with the SAQP (AECOM, 2022) and is summarised in **Table 4** below.

Table 4 Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe.
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for groundwater and surface water samples. Field parameters were collected using a calibrated water quality meter (WQM). The equipment supplier and field calibration records are provided in **Appendix C**.
Sampling methodology	**Groundwater Monitoring Wells** All 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 24 hours prior to the sampling round, based on a review of the well construction log. For this event, all the HydraSleeves™ were installed during previous sampling round in September 2022. 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 immediately below the water surface (approximately 10 centimetres [cm] below the surface water level, where depth permitted) to minimise collection of sediment, 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.
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 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. • *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 limit of reporting (LOR).

Item	Details
	For this December 2022 quarterly sampling event, the QA/QC samples included: • 2 x intra-laboratory duplicates (1 groundwater and 1 surface water), which met the target frequency • 2 x inter-laboratory duplicates (1 groundwater and 1 surface water) which met the target frequency • 1 x rinsate blank, 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 suite 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 5** and **Table 6** below.

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Table 5 Summary of Adopted Screening Criteria: 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, 2020 are from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH utilised the TDI for PFOS and PFOA from FSANZ, 2017 and the methodology described in Chapter 6.3.3 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines (ADWG), 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 were compared to these criteria.*
		PFOA	10 µg/L	

Table 6 Summary of Adopted Screening Criteria: Ecological

Media	Pathway	Compound	Criteria	Comment/Reference
Water – Groundwater and Surface Water	Freshwater	PFOS	0.13 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 95% species protection level (for freshwater) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results were compared to these criteria.*
		PFOA	220 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 (AECOM, 2022). 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.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) 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 December 2022 quarterly sampling event completed on 5 December 2022 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 warm, with a maximum daily temperature of 33.9˚C and no rainfall recorded at Holsworthy (Holsworthy Aerodrome AWS, 66161) (Bureau of Meteorology, 2022) during the sampling event. No rainfall was recorded in the five days preceding the sampling event.
Estate Management Works, Training Activities and/or Construction Works.	During the sampling event, a demountable structure was found to be placed over monitoring well MW115, within the LFS. The demountable is understood to be a temporary structure housing the Busby Fire Station for a period of 12 to 18 months, impeding access to MW115 during this period. No other 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 December 2022 quarterly sampling event are summarised in **Table 8**, below.

Table 8 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	All monitoring 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. Organic odour was noted at one groundwater location (MW136).
Depth to Groundwater and Flow Direction	Depth to groundwater ranged from 0.965 (MW129) and 4.201 (MW113) metres below top of casing (mbTOC). Groundwater elevation ranged between 8.5608 (MW129) and 11.750 (MW112P) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. Inferred groundwater contours and groundwater flow directions based on the current data are shown on **Figure F4** in **Appendix A**. The inferred local groundwater flow direction was to the northeast in the vicinity of the Liverpool Fire Station. This is generally consistent with the inferred groundwater flow direction in the Detailed Site Investigation (CH2M Hill, 2018), which was towards the Georges River, located to the east and northeast of the Site. It is noted that gauging data from six wells (MW112P, MW119P, MW133, MW134 and MW136) in the vicinity of the Fire Station were excluded from the groundwater elevation plan in **Figure F4** in **Appendix A** due to the wells being screened across discontinuous perched water.

Item	Description
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 ranged from 0.00 mg/L (MW113) to 3.64 mg/L (MW131) indicating poorly to moderately oxygenated conditions. • Electrical conductivity ranged from 172.1 µS/cm (MW113) to 3,518 µS/cm (MW129) indicating fresh to saline conditions. • pH ranged from 4.55 (MW130) to 6.94 (MW119) indicating moderately acidic to neutral conditions. • Redox ranged from -160.2 mV (MW136) to 202.5 mV (MW133) indicating oxidising to reducing conditions. **Surface Water Geochemical Parameters** • Dissolved oxygen ranged from 0.20 mg/L (SW001) to 6.40 mg/L (SW111) indicating poorly to well oxygenated conditions. • Electrical conductivity ranged from 312.6 µS/cm (SW111) to 456.8 µS/cm (SW001) indicating fresh conditions. • pH ranged from 6.98 (SW059) to 7.17 (SW001) indicating neutral conditions. • Redox ranged from -175.0 mV (SW001) to 105.4 mV (SW111) indicating oxidising to reducing conditions.

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 T4** in **Appendix B**. In summary, 11 primary groundwater samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in all 11 primary samples
- PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in 10 primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in 7 primary samples.

Deviations from the historical dataset are reported in **Table 9** and graphically on **Figure F5** in **Appendix A**.

Table 9 Deviations from Historical Dataset: Groundwater

Deviation Type	Groundwater sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		Dec 2022	Previous maximum	Dec 2022	Previous maximum	Dec 2022	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in groundwater	-	There was no first-time detection in the dataset.		There was no first-time detection in the dataset.		There was no first-time detection in the dataset.	

Deviation Type	Groundwater sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		Dec 2022	Previous maximum	Dec 2022	Previous maximum	Dec 2022	Previous maximum
New exceedance of the NEMP (HEPA, 2020) drinking water guidelines in groundwater	-	There were no new exceedances of the NEMP Human Health Screening Criteria in the dataset.		There were no new exceedances of the NEMP Human Health Screening Criteria in the dataset.		There are no applicable NEMP Human Health Screening Criteria.	
New exceedance of the NEMP (HEPA, 2020) Freshwater 95% guidelines in groundwater	MW130	There are no applicable NEMP Ecological Screening Criteria (95%).		There were no new exceedances of the NEMP Ecological Screening Criteria in the dataset (95%).		0.16*	0.11
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						
* This PFOS concentration was recorded for the interlaboratory duplicate sample collected from MW130.							

5.3.2 Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, 3 primary surface water samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in all 3 primary samples
- PFOS+PFHxS and/or PFOA did not exceed the adopted human health screening criteria in any primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in 2 primary samples.

There were no first-time detections or new exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA, in the surface water samples analysed.

5.4 Historical Sampling Data

Historical groundwater and surface water sampling data are presented in **Tables T6** and **T7** (respectively) in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The December 2022 quarterly sampling event was completed on 5 December 2022. The findings and the recommended actions are summarised in **Table 10** below.

Table 10 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following were accessed and able to be sampled: • 11 groundwater locations • 3 surface water locations	Nil.
Location unable to be located, inaccessible or dry	Groundwater samples and associated field data from one monitoring well (MW115) were not collected as a demountable was placed over the monitoring well.	AECOM understands that the demountable structure placed over MW115 is temporary and will remain for a period of 12 to 18 months. Monitoring well MW113 is considered to be representative of PFAS concentrations within the LFS area. As such, AECOM does not consider necessary identifying any other alternate locations to substitute MW115 over the following 12 to 18 months.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition.	Nil.
Analytical Results	11 groundwater primary samples and 3 surface water primary samples were analysed.	Locations will be sampled 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 groundwater or surface water locations sampled reported first-time detections of PFOS+PFHxS, PFOA and/or PFOS.	
New exceedances of adopted human health screening criteria	No groundwater or surface water locations sampled reported new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA.	
New exceedances of adopted ecological screening criteria	One monitoring well out of the 11 sampled (MW130) reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA. No surface water locations reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA.	

6.2 Upcoming Sampling Events

The next OMP sampling event is scheduled for March 2023.

6.3 Upcoming Annual Interpretive Report

The next annual interpretive report is scheduled to be delivered in Q1 2023.

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7.0 References

AECOM, 2022. *Holsworthy Barracks - Sampling and Analysis Quality Plan, PFAS OMP*. Revision H, 23 August 2022.

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

CH2M Hill, 2018. *Holsworthy Barracks - PFAS Investigations - Detailed Site Investigation.* Revision 2.0, November 2018.

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Department of Defence, 2020b. *PFAS Management Area Plan - Holsworthy Barracks.* July 2020

Department of Defence, 2021. *PFAS OMP Factual Report Guidance (Version 0.2)*. May 2021.

Department of Health, 2017. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.

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Heads of EPAs Australia and New Zealand (HEPA) 2020. *PFAS National Environmental Management Plan 2.0*. January 2020.

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NHMRC, 2011. *Australian Drinking Water Guidelines 6, 2011. Version 3.7 Updated January 2022*. January 2022.

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 (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*

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

Appendix A

Figures

AECOM

N

0 500 1,000 m

Legend

- Site Boundary
- Primary Source Area
- Study Area

FIGURE F1:
STUDY AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
December 2022
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater location (not sampled)
- Groundwater location (sampled)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

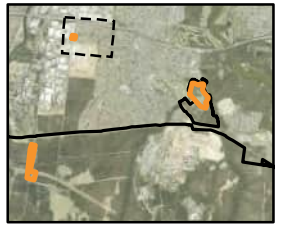

FIGURE F2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
December 2022
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Surface Water location (sampled)

FIGURE F3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
December 2022
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour
- Inferred Groundwater Flow Direction
- Groundwater Monitoring Well (not sampled)
- Groundwater Monitoring Well (sampled)
- 8.348 Groundwater Elevation (mAHD)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

(*) Groundwater elevation data excluded from contouring

FIGURE F4:
GROUNDWATER ELEVATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
December 2022
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- New exceedance of human health and/or ecological screening criteria for PFOS+PFHxS and/or PFOA
- Sampled, no first-time detection or new exceedance
- Location not accessed and/or sampled

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown.
A new exceedance of the ecological screeningcriteria for PFOS and/or PFOA was recorded for MW130

FIGURE F5:
GROUNDWATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
December 2022
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

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
MW112	BH112	13.420	10.3	13.3	12.3	05/12/2022 12:02	4.025	9.395	13.21	Good condition.
MW112P	BH112_P	13.430	2	5	3	05/12/2022 11:58	1.680	11.750	5.08	Good condition.
MW113	BH113	13.460	10.9	14.9	11	05/12/2022 09:18	4.201	9.259	14.76	Good condition.
MW115	BH115	14.080	10.1	13.1	n/a	05/12/2022 09:31	n/a	n/a	n/a	Unable to access: under temporary demountable.
MW119	BH119	11.010	8	11	9	05/12/2022 12:34	2.190	8.820	11.19	Good condition.
MW119P	BH119_P, MW119S	11.120	2	5	4	05/12/2022 12:44	2.181	8.939	5.62	Good condition.
MW129		9.526	5	8	5.5	05/12/2022 11:25	0.965	8.561	7.70	Good condition.
MW130		12.986	6	9	7	05/12/2022 09:38	4.020	8.966	8.70	Good condition.
MW131		12.179	7	10	8	05/12/2022 10:20	3.505	8.674	9.95	Good condition.
MW133	MW133P	13.350	2	4	3	05/12/2022 10:00	2.765	10.585	4.87	Good condition.
MW134		13.210	1.9	3.9	3	05/12/2022 11:47	3.861	9.349	4.65	Water depth measured after Hydrasleeve removal.
MW136	MW136P	11.860	2.25	4.25	3	05/12/2022 11:02	2.525	9.335	4.95	Good condition.

Notes

mbTOC	Metres below top of casing
mAHD	Metres above Australian Height Datum
n/a	Not applicable

Table T2 - Groundwater Geochemical Parameters and Observations

				Field Measurements					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Alternative Name**	**Sampled Date Time**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
MW112	BH112	05/12/2022 12:05	Clear, no turbidity, no odour, no sheen.	1.44	20.7	1830.0	6.07	73.6	279.4
MW112P	BH112_P	05/12/2022 11:59	Clear, no turbidity, no odour, no sheen.	2.15	22.6	221.5	5.20	112.1	317.9
MW113	BH113	05/12/2022 09:22	Light brown, low turbidity, no odour, no sheen.	0.00	23.4	172.1	6.16	56.2	262.0
MW115	BH115	n/a	Unable to access under temporary demountable.	n/a	n/a	n/a	n/a	n/a	n/a
MW119	BH119	05/12/2022 12:36	Light brown, low turbidity, no odour, no sheen.	2.19	21.6	957.0	6.94	50.1	255.9
MW119P	BH119_P, MW119S	05/12/2022 12:44	Light brown, low turbidity, no odour, no sheen.	3.58	21.9	799.0	4.79	201.1	406.9
MW129		05/12/2022 11:27	Light brown, medium turbidity, no odour, no sheen.	1.45	21.6	3518.0	5.52	45.5	251.3
MW130		05/12/2022 09:40	Light brown, low turbidity, no odour, no sheen.	1.43	23.8	1457.0	4.55	183.4	389.2
MW131		05/12/2022 10:22	Clear, no turbidity, no odour, no sheen.	3.64	22.6	1544.0	5.65	187.5	393.3
MW133	MW133P	05/12/2022 10:03	Light brown, low turbidity, no odour, no sheen.	2.69	24.0	333.1	5.23	202.5	408.3
MW134		05/12/2022 11:48	Brown, high turbidity, no odour, no sheen. Insufficient volume for parameters.	-	-	-	-	-	-
MW136	MW136P	05/12/2022 11:02	Brown, medium turbidity, organic odour, no sheen.	1.01	25.4	2332.0	6.35	-160.2	45.6

Notes

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

Table T3 - Surface Water Geochemical Parameters and Observations

				Field Measurements					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Sampled Date Time**	**Location Comments**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
SW001	05/12/2022 12:12	Small drainage channel surrounded by reeds. Water body width (approx.): 1 m, water body depth (approx.): 0.05 m. Water flow not observed.	Dark grey, high turbidity, no odour, biosheen.	0.20	25.6	456.8	7.17	-175.0	30.8
SW059	05/12/2022 11:35	Small channel with grasses and trees on banks. Water body width (approx.): 1 m, water body depth (approx.): 0.2 m. Water flow observed.	Clear, no turbidity, no odour, biosheen.	5.84	24.9	358.0	6.98	28.9	234.7
SW111	05/12/2022 12:53	Creek with grasses and trees on banks. Water body width (approx.): 4 m, water body depth (approx.): 0.3 m. Water flow not observed.	Clear, low turbidity, no odour, biosheen. Dark brown suspended solids.	6.40	26.0	312.6	7.02	105.4	311.2

Notes

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

Table T4 - Groundwater Analytical Results

AECOM

						Per- and Poly-fluoroalkyl Substances																																			
						Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFAS	Sum of PFAS (WA DER List)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.56**			**0.07**																														
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																																		
Location_Code	**Sampled_Date**	**Field_ID**	**Sample_Type**	**Lab_Report_#**																																			
MW112	5/12/2022	0382_MW112_221205	Normal	ES2243811		**1.93**	*25.1*	36	**61.1**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.48	0.82	<0.02	4.84	4.35	0.82	<0.02	<0.02	<0.02	2.86	0.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	81.7	72.9
MW112P	5/12/2022	0382_MW112P_221205	Normal	ES2243811		0.15	*16.3*	3.68	**20**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.12	<0.02	0.66	0.16	0.06	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	21.5	21.1
MW113	5/12/2022	0382_MW113_221205	Normal	ES2243811		**17.2**	*389*	234	**623**	<0.05	9.22	<0.05	<0.05	<0.02	<0.02	<0.05	43.4	13.2	0.32	44.9	21.7	7.96	0.1	<0.02	0.03	26.5	4.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	812	746
MW113	5/12/2022	0382_QC100_221205	Field_D	ES2243811		**19.1**	*407*	234	**641**	<0.05	9.81	<0.05	<0.05	<0.02	<0.02	<0.05	47.7	14.6	0.34	48	24.2	8.18	0.08	<0.02	0.02	29.6	4.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	847	774
MW119	5/12/2022	0382_MW119_221205	Normal	ES2243811		0.47	*26.2*	7.96	**34.2**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.31	0.71	<0.02	2.17	0.43	0.25	<0.02	<0.02	<0.02	0.8	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	40.9	39.2
MW119P	5/12/2022	0382_MW119P_221205	Normal	ES2243811		**11.6**	*206*	194	**400**	<0.05	0.2	<0.05	<0.05	<0.02	<0.02	<0.05	24.8	2.5	0.04	19.9	20.8	3.84	<0.02	<0.02	<0.02	11.5	0.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	496	450
MW129	5/12/2022	0382_MW129_221205	Normal	ES2243811		<0.01	0.05	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW130	5/12/2022	0382_MW130_221205	Normal	ES2243811		<0.01	0.1	0.04	**0.14**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.14	0.14
MW130	5/12/2022	0382_QC200_221205	Interlab_D	312348		<0.01	0.16	0.07	**0.24**	<0.01	<0.01	<0.02	<0.02	<0.02	<0.1	<0.5	0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.05	<0.02	0.02	<0.02	<0.05	<0.5	<0.1	<0.05	<0.02	<0.1	<0.02	0.27	-
MW131	5/12/2022	0382_MW131_221205	Normal	ES2243811		<0.01	0.12	0.03	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.15	0.15
MW133	5/12/2022	0382_MW133_221205	Normal	ES2243811		**2.69**	*1030*	29.5	**1060**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.34	1.44	0.06	7.76	11.1	0.43	<0.02	<0.02	<0.02	1.3	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1090	1070
MW134	5/12/2022	0382_MW134_221205	Normal	ES2243811		0.02	*0.29*	0.87	**1.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.25	<0.02	0.52	0.02	<0.02	<0.02	<0.02	<0.02	0.2	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.56	2.35
MW136	5/12/2022	0382_MW136_221205	Normal	ES2243811		<0.01	0.11	0.2	**0.31**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.5	0.44

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 exceedance of human health and/or ecological screening criteria

Table T5 - Surface Water Analytical Results

AECOM

					Per- and Poly-fluoroalkyl Substances																												
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFHxS and PFOS	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01
PFAS NEMP 2020 Freshwater 95%					*220*	*0.13*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location_Code	**Sampled_Date**	**Field_ID**	**Sample_Type**	**Lab_Report #**																														
SW001	5/12/2022	0382_SW001_221205	Normal	ES2243811	0.04	*1.04*	0.35	1.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.04	<0.02	0.18	0.03	<0.02	0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	1.8
SW059	5/12/2022	0382_SW059_221205	Normal	ES2243811	<0.01	0.1	0.05	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.17
SW059	5/12/2022	0382_QC101_221205	Field_D	ES2243811	<0.01	0.09	0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.16
SW111	5/12/2022	0382_SW111_221205	Normal	ES2243811	<0.01	*0.16*	0.08	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.24
SW111	5/12/2022	0382_QC201_221205	Interlab_D	312348	<0.01	0.12	0.07	0.19	<0.01	<0.01	<0.02	<0.02	<0.02	<0.1	<0.5	<0.01	<0.02	<0.01	0.02	<0.01	<0.01	<0.02	<0.05	<0.02	0.01	<0.02	<0.05	<0.5	<0.1	<0.05	<0.02	<0.1	<0.02	0.22

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 exceedance of human health and/or ecological screening criteria

Table T6 - Historical Groundwater Analytical Results

AECOM

						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 95%						*220*	*0.13*																											
Location Code	Date	Field ID	Sample Type	Project ID																														
MW002	20/02/2018	0382_MW02_180220	Normal	NSW_0382_PFAS		0.35	*0.16*	0.08	0.24	1.11	0.02	<0.01	<0.01	<0.01	0.05	0.10	0.14	0.10	0.03	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
MW002	1/10/2020	0382_MW002_201001	Normal	NSW_0382_PFASOMP_20		0.20	0.04	0.05	0.09	0.85	0.28	<0.02	<0.02	<0.02	<0.1	0.08	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
MW002	1/10/2020	0382_QC102_201001	Field_D	NSW_0382_PFASOMP_20		0.17	0.03	0.04	0.07	0.43	<0.02	<0.02	<0.02	<0.02	<0.1	0.08	0.07	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
MW002	26/03/2021	0382_MW002_210326	Normal	NSW_0382_PFASOMP_20		0.05	0.03	0.02	0.05	0.19	<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	0.03	<0.05	<0.05	0.03	<0.05
MW002	6/09/2021	0382_MW002_210906	Normal	NSW_0382_PFASOMP_20		0.14	0.04	0.03	0.07	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.04	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
MW002	21/03/2022	0382_MW002_220321	Normal	NSW_0382_PFASOMP_20		0.21	0.12	0.04	0.16	0.56	0.04	<0.02	<0.02	<0.02	<0.1	0.05	0.06	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
MW002	6/09/2022	0382_MW002_220906	Normal	NSW_0382_PFASOMP_20		0.17	0.07	0.04	0.11	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.05	0.05	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
MW005	21/02/2018	0382_MW05_180221	Normal	NSW_0382_PFAS		0.03	0.11	0.11	0.22	0.34	0.01	0.01	<0.01	<0.01	<0.05	0.02	0.04	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW005	21/03/2022	0382_MW005_220321	Normal	NSW_0382_PFASOMP_20		0.01	0.04	0.03	0.07	0.20	0.12	<0.02	<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
MW005	6/09/2022	0382_MW005_220906	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.05	0.16	0.18	<0.02	<0.02	<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
MW112	28/03/2018	0382_MW112_180328	Normal	NSW_0382_PFAS		4.3	*64*	58	122	162.2	6.7	12	3.3	<0.01	0.99	1.5	9.7	1.7	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112	1/10/2020	0382_MW112_201001	Normal	NSW_0382_PFASOMP_20		4.75	*52.8*	70.4	123	167	6.32	10.3	6.01	<0.02	1.0	1.87	11.6	1.97	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	3/12/2020	0382_MW112_201203	Normal	NSW_0382_PFASOMP_20		3.03	*30.0*	42.4	72.4	100	3.86	6.31	2.92	<0.02	0.9	1.29	8.16	1.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	25/03/2021	0382_MW112_210325	Normal	NSW_0382_PFASOMP_20		3.76	*25.7*	47.4	73.1	104	5.13	6.30	2.92	<0.02	0.9	1.46	8.38	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	7/06/2021	0382_MW112_210607	Normal	NSW_0382_PFASOMP_20		4.14	*37.9*	49.5	87.4	123	5.33	8.27	4.27	<0.02	0.9	1.53	9.40	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	7/09/2021	0382_MW112_210907	Normal	NSW_0382_PFASOMP_20		3.12	*21.2*	44.0	65.2	93.8	4.61	6.47	3.01	<0.02	0.8	1.33	7.88	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	6/12/2021	0382_MW112_211206	Normal	NSW_0382_PFASOMP_20		2.43	*34.9*	46.8	81.7	111	5.31	5.51	3.65	<0.02	0.9	1.26	9.28	1.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	23/03/2022	0382_MW112_220323	Normal	NSW_0382_PFASOMP_20		3.25	*31.8*	48.8	80.6	109	5.01	6.00	3.21	<0.02	0.6	1.14	8.13	1.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	15/06/2022	0382_MW112_220615	Normal	NSW_0382_PFASOMP_20		4.72	*45.6*	72.0	118	159	7.22	8.57	4.30	<0.05	1.2	1.77	11.6	2.01	<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
MW112	5/09/2022	0382_MW112_220905	Normal	NSW_0382_PFASOMP_20		1.56	*22.0*	32.4	54.4	71.5	2.02	4.00	4.10	<0.02	0.4	0.72	3.61	0.65	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	5/12/2022	0382_MW112_221205	Normal	NSW_0382_PFASOMP_20		1.93	*25.1*	36.0	61.1	81.7	2.86	4.48	4.35	<0.02	0.5	0.82	4.84	0.82	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	28/03/2018	0382_MW112_P_180328	Normal	NSW_0382_PFAS		0.33	*50*	6.0	56	60.19	0.33	1.2	0.34	<0.01	0.16	0.30	1.4	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112P	1/10/2020	0382_MW112_P_201001	Normal	NSW_0382_PFASOMP_20		0.40	*37.3*	8.10	45.4	49.8	0.33	0.64	0.52	<0.02	0.2	0.35	1.78	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	3/12/2020	0382_MW112_P_201203	Normal	NSW_0382_PFASOMP_20		0.22	*23.2*	4.43	27.6	30.2	0.20	0.38	0.29	<0.02	0.1	0.22	1.09	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	25/03/2021	0382_MW112_P_210325	Normal	NSW_0382_PFASOMP_20		0.25	*20.1*	4.75	24.8	27.7	0.19	0.28	0.24	<0.02	0.2	0.24	1.35	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	25/03/2021	0382_QC100_210325	Field_D	NSW_0382_PFASOMP_20		0.25	*22.5*	5.06	27.6	30.6	0.21	0.31	0.27	<0.02	0.2	0.26	1.45	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	7/06/2021	0382_MW112P_210607	Normal	NSW_0382_PFASOMP_20		0.33	*28.2*	5.56	33.8	37.0	0.24	0.40	0.36	<0.02	0.2	0.28	1.32	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	7/09/2021	0382_MW112P_210907	Normal	NSW_0382_PFASOMP_20		0.24	*19.1*	4.68	23.8	26.6	0.20	0.32	0.29	<0.02	0.2	0.23	1.26	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
MW112P	6/12/2021	0382_MW112P_211206	Normal	NSW_0382_PFASOMP_20		0.19	*20.8*	3.90	24.7	27.2	0.18	0.24	0.23	<0.02	0.2	0.20	1.17	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
MW112P	23/03/2022	0382_MW112P_220323	Normal	NSW_0382_PFASOMP_20		0.05	*7.08*	1.67	8.75	9.18	0.04	0.08	0.09	<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
MW112P	15/06/2022	0382_MW112P_220615	Normal	NSW_0382_PFASOMP_20		0.26	*30.6*	5.74	36.3	39.4	0.22	0.28	0.35	<0.02	0.2	0.30	1.31	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	5/09/2022	0382_MW112P_220905	Normal	NSW_0382_PFASOMP_20		0.25	*24.3*	4.36	28.7	31.3	0.16	0.30	0.31	<0.02	0.2	0.26	1.04	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
MW112P	5/12/2022	0382_MW112P_221205	Normal	NSW_0382_PFASOMP_20		0.15	*16.3*	3.68	20.0	21.5	0.12	0.23	0.16	<0.02	<0.1	0.12	0.66	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
MW113	28/03/2018	0382_MW113_180328	Normal	NSW_0382_PFAS		3.7	*46*	74	120	169.15	11	13	3.0	<0.01	1.2	2.1	13	1.9	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW113	1/10/2020	0382_MW113_201001	Normal	NSW_0382_PFASOMP_20		15.7	*194*	284	478	681	36.2	46.6	29.6	0.17	4.4	8.81	53.0	7.59	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	3/12/2020	0382_MW113_201203	Normal	NSW_0382_PFASOMP_20		11.8	*108*	162	270	413	27.3	38.9	9.70	0.05	4.2	6.48	38.0	6.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	3/12/2020	0382_QC100_201203	Field_D	NSW_0382_PFASOMP_20		12.4	*122*	165	287	437	29.0	40.5	10.6	0.05	4.2	6.40	39.8	6.11	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.64	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	3/12/2020	0382_QC200_201203	Interlab_D	NSW_0382_PFASOMP_20		8.2	*97*	180	-	-	22	21	6.2	<0.01	3.4	6.1	31	4.2	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.54	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW113	25/03/2021	0382_MW113_210325	Normal	NSW_0382_PFASOMP_20		7.56	*247*	89.0	336	417	10.4	12.5	5.91	0.54	3.7	9.56	20.8	3.77	0.56	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	5.68	0.10	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	7/06/2021	0382_MW113_210607	Normal	NSW_0382_PFASOMP_20		17.8	*219*	269	488	711	38.4	51.1	26.6	0.16	4.8	10.0	63.0	9.13	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.70	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	7/09/2021	0382_MW113_210907	Normal	NSW_0382_PFASOMP_20		10.0	*205*	252	457	650	36.0	56.4	22.7	0.07	4.9	8.76	46.4	7.12	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.83	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	6/12/2021	0382_MW113_211206	Normal	NSW_0382_PFASOMP_20		15.2	*183*	266	449	656	43.0	46.6	20.4	0.08	4.5	9.43	58.9	7.81	0.10	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.16	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	6/12/2021	0382_QC100_211206	Field_D	NSW_0382_PFASOMP_20		14.6	*182*	262	444	644	39.8	45.1	20.0	0.09	4.7	8.74	58.4	7.42	0.08	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.15	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	23/03/2022	0382_MW113_220323	Normal	NSW_0382_PFASOMP_20		10.6	*1240*	140	1380	1500	11.2	14.4	10.3	0.24	4.6	16.5	30.0	4.34	1.13	0.12	<0.04	<0.04	<0.04	<0.10	<0.05	17.8	0.09	<0.05	0.05	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	15/06/2022	0382_MW113_220615	Normal	NSW_0382_PFASOMP_20		14.9	*580*	200	780	946	20.3	27.0	17.8	0.32	5.2	16.8	38.7	6.66	1.07	0.08	<0.05	<0.05	<0.05	<0.12	<0.05	16.6	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12

Table T6 - Historical Groundwater Analytical Results

AECOM

							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	0.005	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 95%							*220*	*0.13*																												
Location Code	Date	Field ID	Sample Type	Project ID																																
MW113	5/09/2022	0382_MW113_220905	Normal	NSW_0382_PFASOMP_20			14.2	*336*	184	520	683	21.7	40.9	21.0	0.17	4.2	12.3	34.1	6.24	0.42	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	7.76	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	5/09/2022	0382_QC200_2209	Interlab_D	NSW_0382_PFASOMP_20			13	*260*	180	440	580	24	24	13	0.06	4.5	9.9	36	6.8	0.29	0.03	<0.02	<0.05	<0.1	<0.5	<0.01	7.6	0.03	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW113	5/12/2022	0382_MW113_221205	Normal	NSW_0382_PFASOMP_20			17.2	*389*	234	623	812	26.5	43.4	21.7	0.10	4.4	13.2	44.9	7.96	0.32	0.03	<0.02	<0.02	<0.02	<0.05	<0.05	9.22	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	5/12/2022	0382_QC100_221205	Field_D	NSW_0382_PFASOMP_20			19.1	*407*	234	641	847	29.6	47.7	24.2	0.08	4.2	14.6	48.0	8.18	0.34	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	9.81	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	28/03/2018	0382_MW115_180328	Normal	NSW_0382_PFAS			13	*360*	180	540	663.1	21	30	14	<0.2	3.2	5.7	31	5.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW115	1/10/2020	0382_MW115_201001	Normal	NSW_0382_PFASOMP_20			16.1	*469*	218	687	850	20.1	38.4	28.2	<0.02	3.9	7.38	41.7	6.53	0.15	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.70	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	3/12/2020	0382_MW115_201203	Normal	NSW_0382_PFASOMP_20			12.0	*267*	133	400	505	16.0	20.9	13.4	<0.02	3.5	4.92	28.4	4.92	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.57	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	25/03/2021	0382_MW115_210325	Normal	NSW_0382_PFASOMP_20			9.06	*160*	113	273	356	13.0	16.2	8.63	<0.02	3.6	4.30	23.8	3.98	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.68	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	7/06/2021	0382_MW115_210607	Normal	NSW_0382_PFASOMP_20			14.4	*306*	178	484	611	17.0	28.1	17.5	<0.02	3.6	6.53	32.6	6.07	0.14	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.74	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	7/09/2021	0382_MW115_210907	Normal	NSW_0382_PFASOMP_20			8.78	*262*	162	424	538	17.5	27.6	14.9	<0.02	3.5	5.66	31.6	3.94	0.11	<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
MW115	6/12/2021	0382_MW115_211206	Normal	NSW_0382_PFASOMP_20			10.4	*210*	133	343	445	15.9	18.2	10.8	<0.04	3.2	5.08	32.8	4.61	0.12	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.60	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	23/03/2022	0382_MW115_220323	Normal	NSW_0382_PFASOMP_20			11.2	*281*	160	441	562	19.4	21.9	14.8	<0.04	3.4	5.98	38.2	5.36	0.16	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.87	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	15/06/2022	0382_MW115_220615	Normal	NSW_0382_PFASOMP_20			15.7	*358*	203	561	701	19.4	30.4	17.7	<0.05	3.8	7.03	38.2	6.30	0.16	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.94	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	5/09/2022	0382_MW115_220905	Normal	NSW_0382_PFASOMP_20			12.7	*341*	190	531	650	14.2	32.1	20.9	<0.05	3.2	5.46	24.7	4.79	0.13	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.75	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	5/09/2022	0382_QC100_220905	Field_D	NSW_0382_PFASOMP_20			12.4	*336*	194	530	641	15.1	26.6	14.5	<0.05	3.1	5.72	28.1	5.02	0.14	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.66	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW117	1/05/2018	0382_MW117_180501	Normal	NSW_0382_PFAS			<0.01	0.06	0.02	0.08	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	1/05/2018	0382_QC101_180501	Field_D	NSW_0382_PFAS			<0.01	0.06	0.02	0.08	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	1/05/2018	0382_QC201_180501	Interlab_D	NSW_0382_PFAS			<0.01	0.04	<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
MW117	26/03/2021	0382_MW117_210326	Normal	NSW_0382_PFASOMP_20			<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
MW117	7/09/2021	0382_MW117_210907	Normal	NSW_0382_PFASOMP_20			<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
MW117	21/03/2022	0382_MW117_220321	Normal	NSW_0382_PFASOMP_20			<0.01	*0.14*	0.05	0.19	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	7/09/2022	0382_MW117_220907	Normal	NSW_0382_PFASOMP_20			0.04	*1.47*	0.48	1.95	2.16	<0.02	0.03	0.11	<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
MW119	28/03/2018	0382_MW119_180328	Normal	NSW_0382_PFAS			0.08	*0.62*	1.9	2.52	4.26	0.42	0.58	0.03	<0.01	0.05	0.07	0.44	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	28/03/2018	0382_QC102_180328	Field_D	NSW_0382_PFAS			0.08	*0.62*	2.2	2.82	4.51	0.43	0.49	0.04	<0.01	0.05	0.07	0.46	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	1/10/2020	0382_MW119_201001	Normal	NSW_0382_PFASOMP_20			0.36	*18.6*	5.17	23.8	26.8	0.62	0.62	0.37	<0.02	<0.1	0.16	0.80	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	3/12/2020	0382_MW119_201203	Normal	NSW_0382_PFASOMP_20			0.10	*2.03*	1.04	3.07	3.98	0.19	0.19	0.06	<0.02	<0.1	0.06	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
MW119	25/03/2021	0382_MW119_210325	Normal	NSW_0382_PFASOMP_20			0.39	*24.0*	5.78	29.8	34.3	0.78	0.56	0.32	<0.02	0.4	0.43	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	7/06/2021	0382_MW119_210607	Normal	NSW_0382_PFASOMP_20			0.40	*8.80*	3.59	12.4	16.8	0.81	0.55	0.15	<0.02	0.4	0.47	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	7/06/2021	0382_QC100_210607	Field_D	NSW_0382_PFASOMP_20			0.40	*7.53*	3.41	10.9	15.3	0.78	0.53	0.14	<0.02	0.4	0.49	1.47	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	7/09/2021	0382_MW119_210907	Normal	NSW_0382_PFASOMP_20			0.55	*8.84*	6.17	15.0	21.6	1.12	1.08	0.31	<0.02	0.46	0.59	2.28	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	6/12/2021	0382_MW119_211206	Normal	NSW_0382_PFASOMP_20			0.39	*7.43*	5.36	12.8	18.9	1.07	0.89	0.25	<0.02	0.4	0.46	2.40	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	23/03/2022	0382_MW119_220323	Normal	NSW_0382_PFASOMP_20			0.55	*32.8*	4.60	37.4	46.7	0.84	0.53	0.35	<0.02	2.2	1.63	3.00	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	15/06/2022	0382_MW119_220615	Normal	NSW_0382_PFASOMP_20			0.63	*27.3*	6.50	33.8	42.2	0.77	0.70	0.42	<0.02	1.4	1.31	2.91	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	5/09/2022	0382_MW119_220905	Normal	NSW_0382_PFASOMP_20			0.37	*21.3*	4.62	25.9	31.8	0.49	0.67	0.32	<0.02	0.9	0.89	2.00	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
MW119	5/12/2022	0382_MW119_221205	Normal	NSW_0382_PFASOMP_20			0.47	*26.2*	7.96	34.2	40.9	0.80	1.31	0.43	<0.02	0.6	0.71	2.17	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	28/03/2018	0382_MW119_P_180328	Normal	NSW_0382_PFAS			1.6	*30*	16	46	60.25	2.2	3.9	2.0	<0.01	0.33	0.48	3.3	0.44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119P	1/10/2020	0382_MW119_P_201001	Normal	NSW_0382_PFASOMP_20			1.22	*4.32*	34.8	39.1	65.1	4.00	5.55	1.26	<0.02	0.7	1.73	10.4	1.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	3/12/2020	0382_MW119_P_201203	Normal	NSW_0382_PFASOMP_20			0.40	*2.65*	10.3	13.0	22.5	1.53	2.76	0.30	<0.02	0.4	0.59	3.16	0.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	25/03/2021	0382_MW119_P_210325	Normal	NSW_0382_PFASOMP_20			0.40	*1.89*	10.3	12.2	20.5	1.61	1.93	0.27	<0.02	0.3	0.51	2.95	0.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	7/06/2021	0382_MW119P_210607	Normal	NSW_0382_PFASOMP_20			5.40	*51.6*	114	166	277	16.3	26.0	6.42	<0.02	1.8	6.24	44.4	4.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.38	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	7/09/2021	0382_MW119P_210907	Normal	NSW_0382_PFASOMP_20			6.40	*69.5*	156	226	316	13.4	23.8	6.64	<0.02	1.35	4.32	29.5	4.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.42	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	6/12/2021	0382_MW119P_211206	Normal	NSW_0382_PFASOMP_20			6.06	*52.5*	130	182	250	9.30	15.4	7.23	<0.04	1.0	2.60	22.6	3.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.44	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	23/03/2022	0382_MW119P_220323	Normal	NSW_0382_PFASOMP_20			9.02	*156*	176	332	418	13.2	18.3	14.3	<0.04	1.0	2.48	23.9	3.58	0.05	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.40	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	15/06/2022	0382_MW119P_220615	Normal	NSW_0382_PFASOMP_20			13.4	*200*	257	457	584	16.2	33.4	24.0	<0.05	1.6	3.54	28.8	5.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.32	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	5/09/2022	0382_MW119P_220905	Normal	NSW_0382_PFASOMP_20			14.6	*191*	247	438	562	13.7	36.0	31.5	<0.05	1.1	2.68	19.0	4.72	0.06	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.24	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12

Table T6 - Historical Groundwater Analytical Results

AECOM

						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 95%						*220*	*0.13*																											
Location Code	Date	Field ID	Sample Type	Project ID																															
MW119P	5/12/2022	0382_MW119P_221205	Normal	NSW_0382_PFASOMP_20		11.6	*206*	194	400	496	11.5	24.8	20.8	<0.02	0.8	2.50	19.9	3.84	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.20	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW120	14/03/2018	0382_MW120_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW120	1/10/2020	0382_MW120_201001	Normal	NSW_0382_PFASOMP_20		<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
MW120	25/03/2021	0382_MW120_210325	Normal	NSW_0382_PFASOMP_20		<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
MW120	6/09/2021	0382_MW120_210906	Normal	NSW_0382_PFASOMP_20		<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
MW120	21/03/2022	0382_MW120_220321	Normal	NSW_0382_PFASOMP_20		<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
MW120	6/09/2022	0382_MW120_220906	Normal	NSW_0382_PFASOMP_20		<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	14/03/2018	0382_MW121_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14/03/2018	0382_QC101_180314	Field_D	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14/03/2018	0382_QC201_180314	Interlab_D	NSW_0382_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
MW121	1/10/2020	0382_MW121_201001	Normal	NSW_0382_PFASOMP_20		<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
MW121	1/10/2020	0382_QC202_201001	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW121	25/03/2021	0382_MW121_210325	Normal	NSW_0382_PFASOMP_20		<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
MW121	6/09/2021	0382_MW121_210906	Normal	NSW_0382_PFASOMP_20		<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
MW121	21/03/2022	0382_MW121_220321	Normal	NSW_0382_PFASOMP_20		<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	6/09/2022	0382_MW121_220906	Normal	NSW_0382_PFASOMP_20		<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
MW122	14/03/2018	0382_MW122_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW122	1/10/2020	0382_MW122_201001	Normal	NSW_0382_PFASOMP_20		<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
MW122	26/03/2021	0382_MW122_210326	Normal	NSW_0382_PFASOMP_20		<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
MW122	6/09/2022	0382_MW122_220906	Normal	NSW_0382_PFASOMP_20		<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
MW123	15/03/2018	0382_MW123_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW123	1/10/2020	0382_MW123_201001	Normal	NSW_0382_PFASOMP_20		<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
MW123	24/03/2021	0382_MW123_210324	Normal	NSW_0382_PFASOMP_20		<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
MW123	6/09/2021	0382_MW123_210906	Normal	NSW_0382_PFASOMP_20		<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
MW123	6/09/2021	0382_QC201_210906	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.01	<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	<0.1	<0.02	<0.5
MW123	22/03/2022	0382_MW123_220322	Normal	NSW_0382_PFASOMP_20		<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
MW123	22/03/2022	0382_QC102_220322	Field_D	NSW_0382_PFASOMP_20		<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
MW123	6/09/2022	0382_MW123_220906	Normal	NSW_0382_PFASOMP_20		<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
MW124	15/03/2018	0382_MW124_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	0.02	0.02	<0.1	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	1/10/2020	0382_MW124_201001	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<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
MW124	24/03/2021	0382_MW124_210324	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	0.02	0.02	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
MW124	6/09/2021	0382_MW124_210906	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	6/09/2021	0382_QC200_210906	Interlab_D	NSW_0382_PFASOMP_20		<0.01	<0.01	0.01	0.01	0.05	0.03	<0.01	<0.01	<0.02	<0.02	<0.02	0.01	<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	<0.1	<0.02	<0.5
MW124	22/03/2022	0382_MW124_220322	Normal	NSW_0382_PFASOMP_20		<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	7/09/2022	0382_MW124_220907	Normal	NSW_0382_PFASOMP_20		<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	17/07/2018	0382_MW129_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW129	1/10/2020	0382_MW129_201001	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	<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
MW129	3/12/2020	0382_MW129_201203	Normal	NSW_0382_PFASOMP_20		<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
MW129	25/03/2021	0382_MW129_210325	Normal	NSW_0382_PFASOMP_20		<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
MW129	7/06/2021	0382_MW129_210607	Normal	NSW_0382_PFASOMP_20		<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
MW129	7/09/2021	0382_MW129_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	0.02	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	6/12/2021	0382_MW129_211206	Normal	NSW_0382_PFASOMP_20		<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
MW129	23/03/2022	0382_MW129_220323	Normal	NSW_0382_PFASOMP_20		<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
MW129	15/06/2022	0382_MW129_220615	Normal	NSW_0382_PFASOMP_20		<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
MW129	5/09/2022	0382_MW129_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	<0.01	0.03	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

Table T6 - Historical Groundwater Analytical Results

AECOM

							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	0.005	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 95%							*220*	*0.13*																												
Location Code	Date	Field ID	Sample Type	Project ID																																
MW129	5/12/2022	0382_MW129_221205	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.01	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
MW130	17/07/2018	0382_MW130_180717	Normal	NSW_0382_PFAS			<0.01	<0.01	0.02	0.02	<0.1	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW130	1/10/2020	0382_MW130_201001	Normal	NSW_0382_PFASOMP_20			<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
MW130	3/12/2020	0382_MW130_201203	Normal	NSW_0382_PFASOMP_20			<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
MW130	25/03/2021	0382_MW130_210325	Normal	NSW_0382_PFASOMP_20			<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
MW130	7/06/2021	0382_MW130_210607	Normal	NSW_0382_PFASOMP_20			<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
MW130	7/09/2021	0382_MW130_210907	Normal	NSW_0382_PFASOMP_20			<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
MW130	7/09/2021	0382_QC103_210907	Field_D	NSW_0382_PFASOMP_20			<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
MW130	6/12/2021	0382_MW130_211206	Normal	NSW_0382_PFASOMP_20			<0.01	0.11	0.07	0.18	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	23/03/2022	0382_MW130_220323	Normal	NSW_0382_PFASOMP_20			<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
MW130	15/06/2022	0382_MW130_220615	Normal	NSW_0382_PFASOMP_20			<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
MW130	15/06/2022	0382_QC100_220615	Field_D	NSW_0382_PFASOMP_20			<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
MW130	5/09/2022	0382_MW130_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.02	0.04	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
MW130	5/09/2022	0382_QC101_220905	Field_D	NSW_0382_PFASOMP_20			<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
MW130	5/12/2022	0382_MW130_221205	Normal	NSW_0382_PFASOMP_20			<0.01	0.10	0.04	0.14	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	5/12/2022	0382_QC200_221205	Interlab_D	NSW_0382_PFASOMP_20			<0.01	*0.16*	0.07	0.24	0.27	0.02	0.02	<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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.5
MW131	17/07/2018	0382_MW131_180717	Normal	NSW_0382_PFAS			<0.01	<0.01	0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW131	1/10/2020	0382_MW131_201001	Normal	NSW_0382_PFASOMP_20			<0.01	0.08	0.03	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
MW131	3/12/2020	0382_MW131_201203	Normal	NSW_0382_PFASOMP_20			<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
MW131	25/03/2021	0382_MW131_210325	Normal	NSW_0382_PFASOMP_20			<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
MW131	7/06/2021	0382_MW131_210607	Normal	NSW_0382_PFASOMP_20			<0.01	0.06	<0.02	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
MW131	7/06/2021	0382_QC200_210607	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.078	<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
MW131	7/09/2021	0382_MW131_210907	Normal	NSW_0382_PFASOMP_20			<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
MW131	6/12/2021	0382_MW131_211206	Normal	NSW_0382_PFASOMP_20			<0.01	0.03	0.01	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	6/12/2021	0382_QC200_211206	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.02	<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	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.5
MW131	23/03/2022	0382_MW131_220323	Normal	NSW_0382_PFASOMP_20			<0.01	0.06	0.02	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
MW131	15/06/2022	0382_MW131_220615	Normal	NSW_0382_PFASOMP_20			<0.01	0.09	0.02	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
MW131	5/09/2022	0382_MW131_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.02	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
MW131	5/09/2022	0382_QC201_2209	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.03	0.01	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	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.5
MW131	5/12/2022	0382_MW131_221205	Normal	NSW_0382_PFASOMP_20			<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
MW133	7/09/2021	0382_MW133_210907	Normal	NSW_0382_PFASOMP_20			0.05	*4.06*	1.58	5.64	9.19	0.41	0.12	0.07	<0.02	0.6	0.45	1.81	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
MW133	6/12/2021	0382_MW133_211206	Normal	NSW_0382_PFASOMP_20			2.88	*168*	22.0	190	208	1.15	0.97	6.37	<0.04	1.0	0.92	4.82	0.36	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW133	23/03/2022	0382_MW133_220323	Normal	NSW_0382_PFASOMP_20			0.03	*2.59*	1.84	4.43	5.92	0.22	0.26	0.03	<0.02	0.1	0.29	0.53	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
MW133	15/06/2022	0382_MW133_220615	Normal	NSW_0382_PFASOMP_20			4.80	*765*	42.7	808	848	2.58	3.78	12.7	<0.05	1.6	2.54	10.9	0.84	0.07	<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
MW133	5/09/2022	0382_MW133_220905	Normal	NSW_0382_PFASOMP_20			3.39	*530*	31.3	561	588	1.32	2.71	10.7	<0.05	1.2	1.40	5.94	0.50	<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
MW133	5/12/2022	0382_MW133_221205	Normal	NSW_0382_PFASOMP_20			2.69	*1030*	29.5	1060	1090	1.30	3.34	11.1	<0.02	0.9	1.44	7.76	0.43	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	25/03/2021	0382_MW134P_210325	Normal	NSW_0382_PFASOMP_20			0.02	*0.41*	0.48	0.89	1.77	0.10	0.07	<0.02	0.07	0.2	0.16	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Groundwater Analytical Results

AECOM

				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 95%				*220*	*0.13*																												
Location Code	Date	Field ID	Sample Type	Project ID																													
MW134	25/03/2021	0382_QC200_210325	Interlab_D	NSW_0382_PFASOMP_20	0.018	*0.35*	0.38	-	-	0.085	0.062	<0.01	<0.01	0.17	0.13	0.17	0.011	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW134	7/06/2021	0382_MW134_210607	Normal	NSW_0382_PFASOMP_20	0.03	*0.44*	1.16	1.60	2.82	0.23	0.26	0.02	<0.02	0.1	0.16	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	15/06/2022	0382_MW134_220615	Normal	NSW_0382_PFASOMP_20	0.02	*0.52*	1.04	1.56	3.29	0.31	0.24	<0.02	<0.02	0.3	0.28	0.56	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	5/09/2022	0382_MW134_220905	Normal	NSW_0382_PFASOMP_20	0.02	*0.36*	0.95	1.31	2.92	0.22	0.23	<0.02	<0.02	0.3	0.29	0.55	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	5/12/2022	0382_MW134_221205	Normal	NSW_0382_PFASOMP_20	0.02	*0.29*	0.87	1.16	2.56	0.20	0.19	0.02	<0.02	0.2	0.25	0.52	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	18/12/2020	0382_MW136_201218	Normal	NSW_0382_PFAS	<0.002	0.016	0.016	0.032	0.129	0.008	0.004	<0.002	<0.002	<0.01	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.082	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW136	7/06/2021	0382_MW136_210607	Normal	NSW_0382_PFASOMP_20	<0.01	0.11	0.04	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
MW136	7/09/2021	0382_MW136_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.11	0.15	0.29	0.06	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
MW136	6/12/2021	0382_MW136_211206	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.08	0.13	0.24	0.06	0.03	<0.02	<0.02	<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
MW136	23/03/2022	0382_MW136_220323	Normal	NSW_0382_PFASOMP_20	0.02	0.03	0.30	0.33	0.74	0.08	0.06	<0.02	<0.02	0.1	0.03	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15/06/2022	0382_MW136_220615	Normal	NSW_0382_PFASOMP_20	0.03	0.06	0.64	0.70	1.33	0.18	0.16	<0.02	<0.02	<0.1	0.05	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15/06/2022	0382_QC200_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.46	0.51	0.99	0.13	0.13	<0.01	<0.02	0.03	0.03	0.12	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
MW136	5/09/2022	0382_MW136_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.08	0.32	0.40	0.63	0.07	0.08	<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
MW136	5/12/2022	0382_MW136_221205	Normal	NSW_0382_PFASOMP_20	<0.01	0.11	0.20	0.31	0.50	0.07	0.06	<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
MW301	19/02/2018	0382_MW1_180219	Normal	NSW_0382_PFAS	0.02	0.10	0.72	0.82	0.96	0.03	0.04	<0.01	<0.01	<0.05	0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW301	1/10/2020	0382_MW301_201001	Normal	NSW_0382_PFASOMP_20	0.01	*0.16*	0.09	0.25	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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW301	26/03/2021	0382_MW301_210326	Normal	NSW_0382_PFASOMP_20	0.01	0.08	0.06	0.14	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
MW301	6/09/2021	0382_MW301_210906	Normal	NSW_0382_PFASOMP_20	<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
MW301	6/09/2021	0382_QC101_210906	Field_D	NSW_0382_PFASOMP_20	<0.01	0.07	0.05	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
MW301	21/03/2022	0382_MW301_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.12	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
MW301	6/09/2022	0382_MW301_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.03	0.09	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
MW323	16/02/2018	0382_BH345_180216	Normal	NSW_0382_PFAS	<0.01	0.09	<0.01	0.09	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16/02/2018	0382_QC101_180216	Field_D	NSW_0382_PFAS	<0.01	0.09	<0.01	0.09	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16/02/2018	0382_QC201_180216	Interlab_D	NSW_0382_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
MW323	1/10/2020	0382_MW323_201001	Normal	NSW_0382_PFASOMP_20	<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
MW323	24/03/2021	0382_MW323_210324	Normal	NSW_0382_PFASOMP_20	<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
MW323	6/09/2021	0382_MW323_210906	Normal	NSW_0382_PFASOMP_20	<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
MW323	22/03/2022	0382_MW323_220322	Normal	NSW_0382_PFASOMP_20	<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
MW323	22/03/2022	0382_QC101_220322	Field_D	NSW_0382_PFASOMP_20	<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
MW323	7/09/2022	0382_MW323_220907	Normal	NSW_0382_PFASOMP_20	<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
MW330	7/02/2018	0382_BH365_180207	Normal	NSW_0382_PFAS	0.98	0.05	44	44.05	82.22	3.4	7.7	0.49	<0.01	1.6	3.2	19	1.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27/02/2018	0382_BH365_180227	Normal	NSW_0382_PFAS	1.3	0.03	40	40.03	63.81	1.7	5.1	0.48	<0.01	1.1	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27/02/2018	0382_QC101_180227	Field_D	NSW_0382_PFAS	1.3	0.03	39	39.03	62.2	1.7	4.6	0.47	<0.01	1.0	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27/02/2018	0382_QC201_180227	Interlab_D	NSW_0382_PFAS	1.45	0.04	25.8	25.8	44.3	1.11	3.13	0.40	<0.02	<0.1	1.23	10.0	1.12	<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
MW330	22/03/2022	0382_MW330_220322	Normal	NSW_0382_PFASOMP_20	3.90	*3.78*	57.9	61.7	103	2.62	6.27	2.20	<0.02	1.1	3.00	20.4	1.56	<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
MW330	22/03/2022	0382_QC202_220322	Interlab_D	NSW_0382_PFASOMP_20	3.9	*4.2*	63	67	110	2.1	6.4	2.9	<0.02	1.5	2.6	17	1.6	<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
MW330	5/09/2022	0382_MW330_220905	Normal	NSW_0382_PFASOMP_20	3.24	*10.3*	26.8	37.1	56.5	0.71	3.13	2.74	<0.02	0.5	1.10	7.30	0.64	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Groundwater Analytical Results

AECOM

	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 95%	*220*	*0.13*																												

Location Code	Date	Field ID	Sample Type	Project ID																											
MW349	12/02/2018	0382_BH612_180212	Normal	NSW_0382_PFAS	0.01	0.1	0.2	0.3	0.41	0.02	0.03	0.02	<0.01	<0.05	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05
MW349	1/10/2020	0382_MW349_201001	Normal	NSW_0382_PFASOMP_20	0.01	0.12	0.28	0.40	0.51	0.03	0.04	<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
MW349	24/03/2021	0382_MW349_210324	Normal	NSW_0382_PFASOMP_20	<0.01	0.06	0.16	0.22	0.27	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
MW349	6/09/2021	0382_MW349_210906	Normal	NSW_0382_PFASOMP_20	<0.01	0.10	0.23	0.33	0.42	0.03	0.04	<0.02	<0.02	<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
MW349	22/03/2022	0382_MW349_220322	Normal	NSW_0382_PFASOMP_20	<0.01	0.02	0.06	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
MW349	22/03/2022	0382_QC201_220322	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.03	0.06	0.09	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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW349	6/09/2022	0382_MW349_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.31	0.36	0.52	0.06	0.07	<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

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 T7 - Historical Surface Water Analytical Results

AECOM

						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						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																												
PFAS NEMP 2020 Recreational Water						10			2																										
Location Code	Date	Field ID	Sample Type	Project ID																															
SW001	15/03/2018	0382_SW001_180315	Normal	NSW_0382_PFAS		0.86	*3.9*	6.9	10.8	18.04	0.36	1.0	0.36	0.04	0.41	0.92	2.7	0.45	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW001	25/03/2021	0382_SW001_210325	Normal	NSW_0382_PFASOMP_20		0.03	*0.65*	0.58	1.23	1.62	0.04	0.04	<0.02	<0.02	<0.1	0.09	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	7/06/2021	0382_SW001_210607	Normal	NSW_0382_PFASOMP_20		<0.01	0.13	0.06	0.19	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	7/09/2021	0382_SW001_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.04	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
SW001	6/12/2021	0382_SW001_211206	Normal	NSW_0382_PFASOMP_20		0.05	*0.76*	0.50	1.26	1.80	0.06	0.04	0.02	<0.02	<0.1	0.12	0.22	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
SW001	6/12/2021	0382_QC101_211206	Field_D	NSW_0382_PFASOMP_20		0.04	*0.72*	0.49	1.21	1.72	0.05	0.04	0.02	<0.02	<0.1	0.11	0.22	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
SW001	23/03/2022	0382_SW001_220323	Normal	NSW_0382_PFASOMP_20		0.02	*0.27*	0.15	0.42	0.49	<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
SW001	15/06/2022	0382_SW001_220615	Normal	NSW_0382_PFASOMP_20		0.07	*2.06*	0.67	2.73	3.47	0.07	0.06	0.04	<0.02	<0.1	0.09	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	0.13	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	5/09/2022	0382_SW001_220905	Normal	NSW_0382_PFASOMP_20		0.02	*0.87*	0.15	1.02	1.15	<0.02	<0.02	<0.02	0.03	<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	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	5/12/2022	0382_SW001_221205	Normal	NSW_0382_PFASOMP_20		0.04	*1.04*	0.35	1.39	1.80	0.03	0.04	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	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	26/09/2017	0382_SW009_170926	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW009	30/09/2020	0382_SW009_200930	Normal	NSW_0382_PFASOMP_20		0.01	*0.17*	0.25	0.42	0.57	0.04	0.04	<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
SW009	30/09/2020	0382_QC101_200930	Field_D	NSW_0382_PFASOMP_20		0.01	*0.20*	0.28	0.48	0.66	0.05	0.05	<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
SW009	26/03/2021	0382_SW009_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.12	0.21	0.25	0.02	<0.02	<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
SW009	6/09/2021	0382_SW009_210906	Normal	NSW_0382_PFASOMP_20		0.01	0.13	0.18	0.31	0.44	0.03	0.04	<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
SW009	22/03/2022	0382_SW009_220322	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	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
SW009	22/03/2022	0382_QC103_220322	Field_D	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	0.16	0.18	<0.02	<0.02	<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
SW009	7/09/2022	0382_SW009_220907	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.09	0.18	0.21	<0.02	<0.02	<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
SW011	27/09/2017	0382_SW011_170927	Normal	NSW_0382_PFAS		<0.01	0.04	0.03	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW011	30/09/2020	0382_SW011_200930	Normal	NSW_0382_PFASOMP_20		<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
SW011	26/03/2021	0382_SW011_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.08	0.08	0.16	0.20	0.04	<0.02	<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
SW011	8/09/2021	0382_SW011_210908	Normal	NSW_0382_PFASOMP_20		<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
SW011	21/03/2022	0382_SW011_220321	Normal	NSW_0382_PFASOMP_20		0.16	*0.24*	3.28	3.52	4.77	0.11	0.18	0.03	<0.02	<0.1	0.10	0.60	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
SW011	6/09/2022	0382_SW011_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.10	0.22	0.25	<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
SW012	27/09/2017	0382_SW012_170927	Normal	NSW_0382_PFAS		<0.01	0.02	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW012	30/09/2020	0382_SW012_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	6/09/2021	0382_SW012_210906	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	21/03/2022	0382_SW012_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.06	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
SW012	6/09/2022	0382_SW012_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.10	0.22	0.25	<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
SW014	27/09/2017	0382_SW014_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW014	30/09/2020	0382_SW014_200930	Normal	NSW_0382_PFASOMP_20		<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
SW014	30/09/2020	0382_QC100_200930	Field_D	NSW_0382_PFASOMP_20		<0.01	0.04	0.03	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
SW014	26/03/2021	0382_SW014_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	<0.02	0.02	0.07	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
SW014	8/09/2021	0382_SW014_210908	Normal	NSW_0382_PFASOMP_20		<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
SW014	22/03/2022	0382_SW014_220322	Normal	NSW_0382_PFASOMP_20		<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
SW014	7/09/2022	0382_SW014_220907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.06	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
SW015	26/09/2017	0382_SW015_170926	Normal	NSW_0382_PFAS		0.01	0.07	0.08	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW015	30/09/2020	0382_SW015_200930	Normal	NSW_0382_PFASOMP_20		<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
SW015	25/03/2021	0382_SW015_210325	Normal	NSW_0382_PFASOMP_20		<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
SW015	25/03/2021	0382_QC101_210325	Field_D	NSW_0382_PFASOMP_20		<0.01	0.02	0.02	0.04	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
SW015	8/09/2021	0382_SW015_210908	Normal	NSW_0382_PFASOMP_20		<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
SW015	22/03/2022	0382_SW015_220322	Normal	NSW_0382_PFASOMP_20		<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

Table T7 - Historical Surface Water Analytical Results

AECOM

						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						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																												
PFAS NEMP 2020 Recreational Water						10			2																										
Location Code	Date	Field ID	Sample Type	Project ID																															
SW015	22/03/2022	0382_QC203_220322	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	0.08	0.08	<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
SW015	7/09/2022	0382_SW015_220907	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW017	27/09/2017	0382_SW017_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW017	30/09/2020	0382_SW017_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.11	0.04	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW017	26/03/2021	0382_SW017_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.02	0.05	0.08	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW017	26/03/2021	0382_QC201_210326	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW017	8/09/2021	0382_SW017_210908	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW017	21/03/2022	0382_SW017_220321	Normal	NSW_0382_PFASOMP_20		<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
SW017	6/09/2022	0382_SW017_220906	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW025	15/06/2016	HBK-QA01	Normal	ACTNSW_Hist_202009-2		<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-
SW025	15/06/2016	HBK-SW001	Normal	ACTNSW_Hist_202009-2		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW025	26/09/2017	0382_SW025_170926	Normal	NSW_0382_PFAS		<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW025	30/09/2020	0382_SW025_200930	Normal	NSW_0382_PFASOMP_20		<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
SW025	25/03/2021	0382_SW025_210325	Normal	NSW_0382_PFASOMP_20		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
SW025	8/09/2021	0382_SW025_210908	Normal	NSW_0382_PFASOMP_20		<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
SW025	22/03/2022	0382_SW025_220322	Normal	NSW_0382_PFASOMP_20		<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
SW025	5/09/2022	0382_SW025_220905	Normal	NSW_0382_PFASOMP_20		<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
SW025	5/09/2022	0382_QC103_220905	Field_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW030	9/03/2018	0382_SW030_180309	Normal	NSW_0382_PFAS		<0.01	0.03	0.07	0.1	0.16	0.01	0.01	<0.01	<0.01	<0.05	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW030	30/09/2020	0382_SW030_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.11	0.14	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<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
SW030	24/03/2021	0382_SW030_210324	Normal	NSW_0382_PFASOMP_20		0.04	*0.78*	0.79	1.57	2.19	0.10	0.09	0.03	<0.02	<0.1	0.08	0.28	<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
SW030	7/09/2021	0382_SW030_210907	Normal	NSW_0382_PFASOMP_20		0.07	*1.52*	2.66	4.18	5.45	0.29	0.40	0.10	<0.02	<0.1	0.04	0.33	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
SW030	7/09/2021	0382_QC102_210907	Field_D	NSW_0382_PFASOMP_20		0.07	*1.58*	2.72	4.30	5.59	0.31	0.40	0.11	<0.02	<0.1	0.03	0.33	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
SW030	22/03/2022	0382_SW030_220322	Normal	NSW_0382_PFASOMP_20		0.04	*0.74*	0.47	1.21	1.70	0.07	0.06	0.02	<0.02	<0.1	0.08	0.20	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW030	22/03/2022	0382_QC200_220322	Interlab_D	NSW_0382_PFASOMP_20		0.03	*0.83*	0.58	1.4	1.9	0.06	0.07	0.03	<0.02	0.05	0.06	0.20	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	<0.05	<0.1	<0.02	<0.5
SW038	8/03/2018	0382_SW038_180308	Normal	NSW_0382_PFAS		0.01	*0.32*	0.22	0.54	0.65	0.02	0.03	<0.01	<0.01	<0.05	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW038	24/03/2021	0382_SW038_210324	Normal	NSW_0382_PFASOMP_20		0.03	*0.46*	0.53	0.99	1.42	0.06	0.05	0.02	<0.02	<0.1	0.12	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW038	6/09/2021	0382_SW038_210906	Normal	NSW_0382_PFASOMP_20		<0.01	*0.21*	0.26	0.47	0.58	0.03	0.04	<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
SW038	6/09/2021	0382_QC100_210906	Field_D	NSW_0382_PFASOMP_20		<0.01	*0.19*	0.25	0.44	0.55	0.03	0.04	<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
SW038	22/03/2022	0382_SW038_220322	Normal	NSW_0382_PFASOMP_20		0.01	*0.25*	0.16	0.41	0.53	0.02	0.02	<0.02	<0.02	<0.1	0.03	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
SW038	22/03/2022	0382_QC100_220322	Field_D	NSW_0382_PFASOMP_20		0.01	*0.20*	0.17	0.37	0.45	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW038	7/09/2022	0382_SW038_220907	Normal	NSW_0382_PFASOMP_20		0.02	*0.44*	0.46	0.90	1.16	0.05	0.06	<0.02	<0.02	<0.1	0.03	0.10	<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
SW059	1/03/2018	0382_SW059_180301	Normal	NSW_0382_PFAS		0.02	0.07	0.06	0.13	0.18	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW059	30/09/2020	0382_SW059_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.07	0.18	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	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	3/12/2020	0382_SW059_201203	Normal	NSW_0382_PFASOMP_20		0.02	0.08	0.05	0.13	0.18	<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
SW059	25/03/2021	0382_SW059_210325	Normal	NSW_0382_PFASOMP_20		0.01	0.11	0.07	0.18	0.22	<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
SW059	7/06/2021	0382_SW059_210607	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	7/06/2021	0382_QC101_210607	Field_D	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	7/06/2021	0382_QC201_210607	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.069	0.044	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.019	<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
SW059	7/09/2021	0382_SW059_210907	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	7/09/2021	0382_QC203_210907	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.05	0.04	0.09	0.09	<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
SW059	6/12/2021	0382_SW059_211206	Normal	NSW_0382_PFASOMP_20		<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

Table T7 - Historical Surface Water Analytical Results

AECOM

						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						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																												
PFAS NEMP 2020 Recreational Water						10			2																										
Location Code	Date	Field ID	Sample Type	Project ID																															
SW059	6/12/2021	0382_QC201_211206	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.07	0.04	0.11	0.13	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW059	23/03/2022	0382_SW059_220323	Normal	NSW_0382_PFASOMP_20		0.01	*0.15*	0.06	0.21	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	15/06/2022	0382_SW059_220615	Normal	NSW_0382_PFASOMP_20		0.02	*0.16*	0.16	0.32	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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
SW059	15/06/2022	0382_QC101_220615	Field_D	NSW_0382_PFASOMP_20		0.02	0.13	0.14	0.27	0.36	<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	5/09/2022	0382_SW059_220905	Normal	NSW_0382_PFASOMP_20		0.01	0.06	0.05	0.11	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<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
SW059	5/09/2022	0382_QC102_220905	Field_D	NSW_0382_PFASOMP_20		0.01	0.06	0.04	0.10	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	5/12/2022	0382_SW059_221205	Normal	NSW_0382_PFASOMP_20		<0.01	0.10	0.05	0.15	0.17	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<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
SW059	5/12/2022	0382_QC101_221205	Field_D	NSW_0382_PFASOMP_20		<0.01	0.09	0.05	0.14	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW062	5/03/2018	0382_SW062_180305	Normal	NSW_0382_PFAS		0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW062	30/09/2020	0382_SW062_200930	Normal	NSW_0382_PFASOMP_20		<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
SW062	8/09/2021	0382_SW062_210908	Normal	NSW_0382_PFASOMP_20		<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
SW062	22/03/2022	0382_SW062_220322	Normal	NSW_0382_PFASOMP_20		<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
SW062	5/09/2022	0382_SW062_220905	Normal	NSW_0382_PFASOMP_20		<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
SW062	5/09/2022	0382_QC203_2209	Interlab_D	NSW_0382_PFASOMP_20		<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
SW063	18/04/2018	0382_SW063_180418	Normal	NSW_0382_PFAS		<0.01	0.01	<0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW063	8/09/2021	0382_SW063_210908	Normal	NSW_0382_PFASOMP_20		<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
SW063	21/03/2022	0382_SW063_220321	Normal	NSW_0382_PFASOMP_20		<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
SW063	7/09/2022	0382_SW063_220907	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	15/06/2018	0382_SW103_180615	Normal	NSW_0382_PFAS		<0.05	*0.21*	0.08	0.29	0.31	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	15/06/2018	0382_QC102_180615	Field_D	NSW_0382_PFAS		<0.01	*0.22*	0.07	0.29	0.31	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	15/06/2018	0382_QC202_180615	Interlab_D	NSW_0382_PFAS		<0.01	*0.16*	0.07	0.23	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	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	30/09/2020	0382_SW103_200930	Normal	NSW_0382_PFASOMP_20		0.02	*0.15*	0.03	0.18	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05
SW103	30/09/2020	0382_QC201_200930	Interlab_D	NSW_0382_PFASOMP_20		0.019	0.1	0.022	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	0.11	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW103	24/03/2021	0382_SW103_210324	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	7/09/2021	0382_SW103_210907	Normal	NSW_0382_PFASOMP_20		0.01	*0.15*	0.06	0.21	0.30	0.05	<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
SW103	7/09/2021	0382_QC202_210907	Interlab_D	NSW_0382_PFASOMP_20		0.02	*0.15*	0.07	0.21	0.33	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	0.03	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	0.04	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW103	21/03/2022	0382_SW103_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	0.02	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	5/09/2022	0382_SW103_220905	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	15/06/2018	0382_SW104_180615	Normal	NSW_0382_PFAS		<0.05	*0.15*	0.07	0.22	0.23	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW104	30/09/2020	0382_SW104_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.08	0.02	0.10	0.27	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.15	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05
SW104	24/03/2021	0382_SW104_210324	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	7/09/2021	0382_SW104_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.07	0.03	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	21/03/2022	0382_SW104_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.02	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	5/09/2022	0382_SW104_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.08	0.04	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	15/06/2018	0382_SW105_180615	Normal	NSW_0382_PFAS		<0.05	*0.51*	0.13	0.64	0.7	0.01	<0.01	<0.05	<0.01	<0.05	0.02	0.03	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW105	30/09/2020	0382_SW105_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.13	0.03	0.16	0.45	<0.02	<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	0.23	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05
SW105	24/03/2021	0382_SW105_210324	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	7/09/2021	0382_SW105_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.04	0.16	0.20	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<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
SW105	21/03/2022	0382_SW105_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.05	0.02	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	5/09/2022	0382_SW105_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.04	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	30/09/2020	0382_SW111_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.10	0.05	0.15	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	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	3/12/2020	0382_SW111_201203	Normal	NSW_0382_PFASOMP_20		0.02	0.07	0.05	0.12	0.17	<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

Table T7 - Historical Surface Water Analytical Results

AECOM

	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	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 95%	*220*	*0.13*																													
PFAS NEMP 2020 Recreational Water	10			2																											
SW111	3/12/2020	0382_QC101_201203	Field_D	NSW_0382_PFASOMP_20	0.02	0.08	0.05	0.13	0.18	<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
SW111	3/12/2020	0382_QC201_201203	Interlab_D	NSW_0382_PFASOMP_20	0.018	0.084	0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.022	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
SW111	25/03/2021	0382_SW111_210325	Normal	NSW_0382_PFASOMP_20	0.06	*1.42*	1.03	2.45	3.23	0.09	0.08	0.04	<0.02	<0.1	0.13	0.35	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
SW111	7/06/2021	0382_SW111_210607	Normal	NSW_0382_PFASOMP_20	0.07	*1.93*	0.90	2.83	3.41	0.06	0.08	0.04	<0.02	<0.1	0.05	0.20	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	7/09/2021	0382_SW111_210907	Normal	NSW_0382_PFASOMP_20	0.04	*1.01*	0.73	1.74	2.18	0.05	0.06	0.03	<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
SW111	6/12/2021	0382_SW111_211206	Normal	NSW_0382_PFASOMP_20	0.01	0.06	0.03	0.09	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
SW111	23/03/2022	0382_SW111_220323	Normal	NSW_0382_PFASOMP_20	0.01	0.05	0.03	0.08	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	15/06/2022	0382_SW111_220615	Normal	NSW_0382_PFASOMP_20	0.02	0.08	0.06	0.14	0.19	<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
SW111	15/06/2022	0382_QC201_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.05	0.1	0.14	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW111	5/09/2022	0382_SW111_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	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
SW111	5/09/2022	0382_QC202_2209	Interlab_D	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	0.1	<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	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW111	5/12/2022	0382_SW111_221205	Normal	NSW_0382_PFASOMP_20	<0.01	*0.16*	0.08	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
SW111	5/12/2022	0382_QC201_221205	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.12	0.07	0.19	0.22	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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

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

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	01-8272
Client Name	J[redacted]
Project Number	60612562_6.1

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	William Pak
Calibration Date	29/11/2022
Calibration Due	29/05/2023

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@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 Professional Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	21A102654
Client Name	[redacted]
Project Number	60612562_6.1
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.	20.3	20.1	20.3	°C
pH	pH 4.00	386466	4.01	4.09	4.01	pH
pH	pH 7.00	387329	7.00	6.96	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2776	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	238.1	237.5	238.1	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-0.8	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	97.6	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	William Pak
Calibration Date	29/11/2022
Calibration Due	29/05/2023

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612562
Project Location:	Holsworthy	**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 Pro Plus
Serial Number:	21A102654

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	5 Dec 22 0900				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7		0	
Calibration Reading:	4.00	7.00		0.00	
Calibration Temperature:	23.6	23.5		23.6	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	5 Dec 22 0900				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2655	0	
Bump Test Reading:	4.06	6.97	2651	0.02	
Bump Test Temperature:	23.6	23.5	23.3	23.5	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

5 / 12 / 22
Date

Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	[redacted]	Date:	20/01/2023
Client:	Department of Defence	Data verified by:		Date:	07/02/2023
Site:	Holsworthy Barracks	Project Manager:			
Matrix type:	Groundwater and Surface Water				
Primary samples:	11 Groundwater samples, 3 Surface water samples				
Laboratory:	Primary: ALS, Secondary: Envirolab				
Lab reference:	ES2243811 (ALS), 312348 (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, 2022).
Sampling personnel	Sampling was conducted by [redacted] on 05/12/2022. Field personnel were suitably qualified and experienced AECOM Environmental Scientists and Engineers.
Sampling Methodology	All samples were collected in accordance with the methodology outlined in the SAQP (AECOM, 2022). After each sample was collected, reusable equipment was decontaminated using Liquinox and potable water, and the consumables (nitrile gloves, HydraSleeve™ materials) 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 from the final rinse of the decontaminated interface probe (IP) at a rate of one rinsate blank per day (one rinsate blank sample was collected).
Frequency of field QC	Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in ten primary samples (10%), meeting the DQI. In total, two field intra-laboratory duplicates and two inter-laboratory duplicates were analysed for 14 primary water samples (one for surface water and one for groundwater for each duplicate type).
Handling and preservation	All samples were received by the primary laboratory in appropriate containers, with ice present, at a temperature of 0.5 °C, within the recommended temperature range (<6°C). All samples were received by the secondary laboratory in appropriate containers, with ice present, however, the sample receipt temperature was recorded at 8.0 °C, outside the recommended temperature range. Given that the laboratories reported the cooling media was ice and that the analytical groups tested are of non-volatile nature, AECOM considers that the samples were appropriately preserved.
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 interface probes, which were 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, 2022).
Tests requested/reported	All surface water and groundwater samples were analysed for the PFAS extended suite. 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	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 a 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 for the analytes tested. 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 the laboratory's control limits. The laboratory duplicate RPDs are presented in the primary laboratory's Quality Control Report.
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 • Perfluorohexane sulfonic acid (PFHxS), 0382_MW112P_221205 • Perfluorooctane sulfonic acid (PFOS), 0382_MW112P_221205 These non-determinations, due to background levels being greater than or equal to four times spike levels, do not reflect method bias or affect data interpretation.
Surrogate spike recovery	The reported surrogate spike recoveries were within laboratory control limits. This is presented in the Quality Control Reports for both laboratories.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalies between field observations and analytical results were noted.
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	The Limit of Reporting (LOR) values were sufficiently low to enable assessment against adopted screening levels.
Rinsate Blank sample results	The concentrations of PFAS in the Rinsate Blank sample (Table D2) were below the limit of reporting (LOR), with the exception of one detection (0.18µg/L) in PFOS. The result was confirmed with re-analysis by the laboratory. While this detection is largely considered to be anomalous, it may indicate the potential for a small degree of cross-contamination introduced into the monitoring well from the interface probe (IP). Given that only the tip of the interface probe is submerged in water (to record the

	depth to water) prior to the removal of the HydraSleeve™, and the HydraSleeve™ deploys at depth within the screened interval of the monitoring wells, AECOM considers that it is highly unlikely that cross-contamination would have occurred to an extent where it may impact the reliability of the data. Furthermore, it was noted that all samples recorded PFOS concentrations within the same order of magnitude or within historical ranges in the samples analysed.
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), with the exception of: <u>Inter-laboratory duplicates (Field Triplicates) RPDs</u> MW130/QC200 PFHxS: 55% Sum of PFHxS and PFOS: 53% Sum of PFAS: 63% The elevated RPDs for groundwater duplicate pairs were generally marginally above acceptable limits and were within the same order of magnitude. Additionally, all concentrations with the elevated RDPs, are reported either well above or well below the adopted guideline criteria or have no applicable guideline criteria. Therefore, AECOM considers that these are not significant to impact the interpretation of results. Where required for quantitative purposes, the highest concentrations from the primary and duplicate pairs were 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 RPDs

Table D2 – Rinsate Blank Results

Table D1 - Water RPDs

AECOM

			Lab Report Number	ES2243811	ES2243811		ES2243811	ES2243811		ES2243811	312348		ES2243811	312348	
			Field ID	0382_MW113_221205	0382_QC100_221205	RPD	0382_SW059_221205	0382_QC101_221205	RPD	0382_MW130_221205	0382_QC200_221205	RPD	0382_SW111_221205	0382_QC201_221205	RPD
			Sampled Date/Time	5/12/2022 9:17	5/12/2022 9:17		5/12/2022 11:31	5/12/2022 11:31		5/12/2022 9:40	5/12/2022 9:40		5/12/2022 12:54	5/12/2022 12:54	
			Sample Type	Normal	Intra-lab duplicate		Normal	Intra-lab duplicate		Normal	Inter-lab duplicate		Normal	Inter-lab duplicate	
ChemGroup	**ChemName**	**Units**	**LOR**												
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	17.2	19.1	10	<0.01	<0.01	nc	<0.01	<0.01	nc	<0.01	<0.01	nc
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	389	407	5	0.1	0.09	11	0.1	0.16	46	0.16	0.12	29
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	234	234	0	0.05	0.05	0	0.04	0.07	55	0.08	0.07	13
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.01	nc
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	9.22	9.81	6	<0.05	<0.05	nc	<0.05	<0.01	nc	<0.05	<0.01	nc
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<0.02	nc
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.02	nc	<0.05	<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
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.1 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.1	nc
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.5 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.5	nc
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	43.4	47.7	9	<0.02	<0.02	nc	<0.02	0.02	nc	<0.02	<0.01	nc
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	13.2	14.6	10	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.32	0.34	6	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.01	nc
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	44.9	48	7	0.02	0.02	0	<0.02	<0.01	nc	<0.02	0.02	nc
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	21.7	24.2	11	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.01	nc
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	7.96	8.18	3	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.01	nc
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	0.1	0.08	22	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.05	nc
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	0.03	0.02	40	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	26.5	29.6	11	<0.02	<0.02	nc	<0.02	0.02	nc	<0.02	0.01	nc
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.02 (Interlab)	4.4	4.2	5	<0.1	<0.1	nc	<0.1	<0.02	nc	<0.1	<0.02	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-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05 : 0.5 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.5	nc
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.1 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.1	nc	<0.05	<0.1	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-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
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.1 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<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
	Sum of PFHxS and PFOS	µg/L	0.01	623	641	3	0.15	0.14	7	**0.14**	**0.24**	**53**	0.24	0.19	23
	Sum of PFAS	µg/L	0.01	812	847	4	0.17	0.16	6	**0.14**	**0.27**	**63**	0.24	0.22	9

Notes
LOR = Limit of Reporting
µg/L = micrograms per Liter
nc = non calculable as concentrations in one or both samples are below the LOR
High RPDs (>30%) are highlighted in bold

Table D2 - Rinsate Blank Results

AECOM

Lab Report Number	ES2243811
Field ID	0382_QC300_221205
Sampled_Date/Time	5/12/2022 10:10
Sample Type	Rinsate

ChemGroup	ChemName	Units	EQL	
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	**0.18**
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02
	Sum of PFHxS and PFOS	µg/L	0.01	**0.18**
	Sum of PFAS	µg/L	0.01	**0.18**

Appendix E

Laboratory Certificates

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2243811**	Page	: 1 of 13
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_20	Date Samples Received	: 06-Dec-2022 13:55
Order number	: 60612562_6.1	Date Analysis Commenced	: 07-Dec-2022
C-O-C number	: 45619	Issue Date	: 25-Jan-2023 11:52
Sampler	: [redacted]		
Site	: 0382: LFS & Off-Site		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 17		
No. of samples analysed	: 17		

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]	Organic Chemist	Sydney Organics, 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.

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: Postive result for analyte Perfluorooctane sulfonic acid (PFOS) on sample 0382_QC300_221205 (ES2243811-017) has been confirmed by re-extraction and re-analysis.
- Amendment (25/01/2023):This report has been amended to add an additional comment as per client request.
- 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**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW112_221205	0382_MW112P_221205	0382_MW113_221205	0382_MW119_221205	0382_MW119P_221205
				Sampling date / time	05-Dec-2022 12:06	05-Dec-2022 12:01	05-Dec-2022 09:17	05-Dec-2022 12:38	05-Dec-2022 12:45
					ES2243811-001	ES2243811-002	ES2243811-003	ES2243811-004	ES2243811-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**2.86**	**0.12**	**26.5**	**0.80**	**11.5**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**4.48**	**0.23**	**43.4**	**1.31**	**24.8**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**36.0**	**3.68**	**234**	**7.96**	**194**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**4.35**	**0.16**	**21.7**	**0.43**	**20.8**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**25.1**	**16.3**	**389**	**26.2**	**206**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.10**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.5**	<0.1	**4.4**	**0.6**	**0.8**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.82**	**0.12**	**13.2**	**0.71**	**2.50**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**4.84**	**0.66**	**44.9**	**2.17**	**19.9**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.82**	**0.06**	**7.96**	**0.25**	**3.84**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**1.93**	**0.15**	**17.2**	**0.47**	**11.6**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.32**	<0.02	**0.04**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	**0.03**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW112_221205	0382_MW112P_221205	0382_MW113_221205	0382_MW119_221205	0382_MW119P_221205
				Sampling date / time	05-Dec-2022 12:06	05-Dec-2022 12:01	05-Dec-2022 09:17	05-Dec-2022 12:38	05-Dec-2022 12:45
					ES2243811-001	ES2243811-002	ES2243811-003	ES2243811-004	ES2243811-005
					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	**9.22**	<0.05	**0.20**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**81.7**	**21.5**	**812**	**40.9**	**496**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**61.1**	**20.0**	**623**	**34.2**	**400**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**72.9**	**21.1**	**746**	**39.2**	**450**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.2**	**98.7**	**93.8**	**96.4**	**83.2**
13C8-PFOA	----	0.02	%		**91.6**	**94.2**	**92.4**	**91.4**	**84.3**

Analytical Results

Sub-Matrix: **GROUNDWATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW129_221205	0382_MW130_221205	0382_MW131_221205	0382_MW133_221205	0382_MW134_221205
				Sampling date / time	05-Dec-2022 11:29	05-Dec-2022 09:40	05-Dec-2022 10:22	05-Dec-2022 10:11	05-Dec-2022 11:47
					ES2243811-006	ES2243811-007	ES2243811-008	ES2243811-009	ES2243811-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**1.30**	**0.20**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**3.34**	**0.19**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.01**	**0.04**	**0.03**	**29.5**	**0.87**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**11.1**	**0.02**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	**0.10**	**0.12**	**1030**	**0.29**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	**0.9**	**0.2**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	**1.44**	**0.25**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**7.76**	**0.52**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.43**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**2.69**	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.06**	<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	0382_MW129_221205	0382_MW130_221205	0382_MW131_221205	0382_MW133_221205	0382_MW134_221205
				Sampling date / time	05-Dec-2022 11:29	05-Dec-2022 09:40	05-Dec-2022 10:22	05-Dec-2022 10:11	05-Dec-2022 11:47
Compound	CAS Number	LOR	Unit		ES2243811-006	ES2243811-007	ES2243811-008	ES2243811-009	ES2243811-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.06**	**0.14**	**0.15**	**1090**	**2.56**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.06**	**0.14**	**0.15**	**1060**	**1.16**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.06**	**0.14**	**0.15**	**1070**	**2.35**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.9**	**100**	**97.2**	**88.7**	**98.7**
13C8-PFOA	----	0.02	%		**97.5**	**90.7**	**92.5**	**98.6**	**87.9**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW136_221205	0382_QC100_221205	----	----	----
				Sampling date / time	05-Dec-2022 11:02	05-Dec-2022 09:20	----	----	----
Compound	CAS Number	LOR	Unit		ES2243811-011	ES2243811-015	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.07**	**29.6**	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	**47.7**	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.20**	**234**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**24.2**	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.11**	**407**	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	**0.08**	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**4.2**	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**14.6**	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.06**	**48.0**	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**8.18**	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**19.1**	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.34**	----	----	----
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	0382_MW136_221205	0382_QC100_221205	----	----	----
				Sampling date / time	05-Dec-2022 11:02	05-Dec-2022 09:20	----	----	----
Compound	CAS Number	LOR	Unit		ES2243811-011	ES2243811-015	--------	--------	--------
					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	**9.81**	----	----	----
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		**0.50**	**847**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.31**	**641**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.44**	**774**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.0**	**110**	----	----	----
13C8-PFOA	----	0.02	%		**92.3**	**93.6**	----	----	----

Analytical Results

Sub-Matrix: **RINSATE** (Matrix: **WATER**)				Sample ID	0382_QC300_221205	----	----	----	----
				Sampling date / time	05-Dec-2022 10:10	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2243811-017	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.18**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0382_QC300_221205	----	----	----	----
				Sampling date / time	05-Dec-2022 10:10	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2243811-017	--------	--------	--------	--------
					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		**0.18**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.18**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.18**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**93.3**	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW001_221205	0382_SW059_221205	0382_SW111_221205	0382_QC101_221205	----
				Sampling date / time	05-Dec-2022 12:13	05-Dec-2022 11:31	05-Dec-2022 12:54	05-Dec-2022 11:31	----
Compound	CAS Number	LOR	Unit		ES2243811-012	ES2243811-013	ES2243811-014	ES2243811-016	--------
					Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.35**	**0.05**	**0.08**	**0.05**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1.04**	**0.10**	**0.16**	**0.09**	----
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		**0.04**	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.18**	**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		**0.04**	<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		**0.03**	<0.02	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW001_221205	0382_SW059_221205	0382_SW111_221205	0382_QC101_221205	----
				Sampling date / time	05-Dec-2022 12:13	05-Dec-2022 11:31	05-Dec-2022 12:54	05-Dec-2022 11:31	----
Compound	CAS Number	LOR	Unit		ES2243811-012	ES2243811-013	ES2243811-014	ES2243811-016	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.80**	**0.17**	**0.24**	**0.16**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.39**	**0.15**	**0.24**	**0.14**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.68**	**0.17**	**0.24**	**0.16**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.5**	**104**	**104**	**104**	----
13C8-PFOA	----	0.02	%		**91.6**	**94.2**	**92.3**	**94.0**	----

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: **RINSATE**		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

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2243811**	Page	: 1 of 6
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_20	Date Samples Received	: 06-Dec-2022
Site	: 0382: LFS & Off-Site	Issue Date	: 25-Jan-2023
Sampler	: [redacted]	No. of samples received	: 17
Order number	: 60612562_6.1	No. of samples analysed	: 17

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2243811--002	0382_MW112P_221205	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2243811--002	0382_MW112P_221205	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0382_MW112_221205, 0382_MW112P_221205, 0382_MW113_221205, 0382_MW119_221205, 0382_MW119P_221205, 0382_MW129_221205, 0382_MW130_221205, 0382_MW131_221205, 0382_MW133_221205, 0382_MW134_221205, 0382_MW136_221205, 0382_SW001_221205, 0382_SW059_221205, 0382_SW111_221205, 0382_QC100_221205, 0382_QC101_221205, 0382_QC300_221205	**05-Dec-2022**	**10-Dec-2022**	03-Jun-2023	✓	**12-Dec-2022**	03-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0382_MW112_221205, 0382_MW112P_221205, 0382_MW113_221205, 0382_MW119_221205, 0382_MW119P_221205, 0382_MW129_221205, 0382_MW130_221205, 0382_MW131_221205, 0382_MW133_221205, 0382_MW134_221205, 0382_MW136_221205, 0382_SW001_221205, 0382_SW059_221205, 0382_SW111_221205, 0382_QC100_221205, 0382_QC101_221205, 0382_QC300_221205	**05-Dec-2022**	**10-Dec-2022**	03-Jun-2023	✓	**12-Dec-2022**	03-Jun-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0382_MW112_221205, 0382_MW112P_221205, 0382_MW113_221205, 0382_MW119_221205, 0382_MW119P_221205, 0382_MW129_221205, 0382_MW130_221205, 0382_MW131_221205, 0382_MW133_221205, 0382_MW134_221205, 0382_MW136_221205, 0382_SW001_221205, 0382_SW059_221205, 0382_SW111_221205, 0382_QC100_221205, 0382_QC101_221205, 0382_QC300_221205	**05-Dec-2022**	**10-Dec-2022**	03-Jun-2023	✓	**12-Dec-2022**	03-Jun-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0382_MW112_221205, 0382_MW112P_221205, 0382_MW113_221205, 0382_MW119_221205, 0382_MW119P_221205, 0382_MW129_221205, 0382_MW130_221205, 0382_MW131_221205, 0382_MW133_221205, 0382_MW134_221205, 0382_MW136_221205, 0382_SW001_221205, 0382_SW059_221205, 0382_SW111_221205, 0382_QC100_221205, 0382_QC101_221205, 0382_QC300_221205	**05-Dec-2022**	**10-Dec-2022**	03-Jun-2023	✓	**12-Dec-2022**	03-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0382_MW112_221205, 0382_MW112P_221205, 0382_MW113_221205, 0382_MW119_221205, 0382_MW119P_221205, 0382_MW129_221205, 0382_MW130_221205, 0382_MW131_221205, 0382_MW133_221205, 0382_MW134_221205, 0382_MW136_221205, 0382_SW001_221205, 0382_SW059_221205, 0382_SW111_221205, 0382_QC100_221205, 0382_QC101_221205, 0382_QC300_221205	**05-Dec-2022**	**10-Dec-2022**	03-Jun-2023	✓	**12-Dec-2022**	03-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

QUALITY CONTROL REPORT

Work Order	: **ES2243811**	Page	: 1 of 7
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_20	Date Samples Received	: 06-Dec-2022
Order number	: 60612562_6.1	Date Analysis Commenced	: 07-Dec-2022
C-O-C number	: 45619	Issue Date	: 25-Jan-2023
Sampler	: [redacted]		
Site	: 0382: LFS & Off-Site		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 17		
No. of samples analysed	: 17		

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]	Organic Chemist	Sydney Organics, 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: **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: 4755571)									
ES2243811-001	0382_MW112_221205	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	36.0	35.3	2.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	25.1	26.8	6.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.86	2.88	0.7	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	4.48	4.42	1.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	4.35	4.53	4.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2243811-011	0382_MW136_221205	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.20	0.22	11.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.11	0.11	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	0.08	14.7	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<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: 4755571)									
ES2243811-001	0382_MW112_221205	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.93	2.03	5.1	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.82	0.85	3.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.84	4.69	3.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.82	0.84	3.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	0.5	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: 4755571) - continued									
ES2243811-011	0382_MW136_221205	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.06	0.07	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: 4755571)									
ES2243811-001	0382_MW112_221205	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
ES2243811-011	0382_MW136_221205	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: 4755571)									
ES2243811-001	0382_MW112_221205	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: 4755571) - continued									
ES2243811-001	0382_MW112_221205	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
ES2243811-011	0382_MW136_221205	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: 4755571)									
ES2243811-001	0382_MW112_221205	EP231X: Sum of PFAS	----	0.01	µg/L	81.7	82.8	1.4	0% - 20%
ES2243811-011	0382_MW136_221205	EP231X: Sum of PFAS	----	0.01	µg/L	0.50	0.56	11.3	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4755571)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	74.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	92.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	81.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	85.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	85.6	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	78.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4755571)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	77.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	91.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	82.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	84.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	84.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4755571)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	86.8	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.9	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	89.4	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.2	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	87.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	92.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4755571)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	82.2	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	84.8	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	86.6	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4755571) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	75.8	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: 4755571)							
ES2243811-002	0382_MW112P_221205	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	74.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	80.6	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	76.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4755571)							
ES2243811-002	0382_MW112P_221205	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	75.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	93.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	81.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	77.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	85.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	78.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	92.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	72.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	91.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4755571)							
ES2243811-002	0382_MW112P_221205	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	88.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	97.2	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	82.4	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.8	57.6	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: 4755571) - continued							
ES2243811-002	0382_MW112P_221205	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	81.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	90.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4755571)							
ES2243811-002	0382_MW112P_221205	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	82.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	81.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	83.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	74.0	71.4	144

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2243811**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0382_PFASOMP_20	Page	: 1 of 3
Order number	: 60612562_6.1	Quote number	: ES2021AECOMAU0028 (SY/139/19 v4 60612562_6.1)
C-O-C number	: 45619	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0382: LFS & Off-Site		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Dec-2022 13:55	Issue Date	: 07-Dec-2022
Client Requested Due Date	: 13-Dec-2022	Scheduled Reporting Date	: **13-Dec-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 0.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 17 / 17

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)
ES2243811-001	05-Dec-2022 12:06	0382_MW112_221205	✓
ES2243811-002	05-Dec-2022 12:01	0382_MW112P_221205	✓
ES2243811-003	05-Dec-2022 09:17	0382_MW113_221205	✓
ES2243811-004	05-Dec-2022 12:38	0382_MW119_221205	✓
ES2243811-005	05-Dec-2022 12:45	0382_MW119P_221205	✓
ES2243811-006	05-Dec-2022 11:29	0382_MW129_221205	✓
ES2243811-007	05-Dec-2022 09:40	0382_MW130_221205	✓
ES2243811-008	05-Dec-2022 10:22	0382_MW131_221205	✓
ES2243811-009	05-Dec-2022 10:11	0382_MW133_221205	✓
ES2243811-010	05-Dec-2022 11:47	0382_MW134_221205	✓
ES2243811-011	05-Dec-2022 11:02	0382_MW136_221205	✓
ES2243811-012	05-Dec-2022 12:13	0382_SW001_221205	✓
ES2243811-013	05-Dec-2022 11:31	0382_SW059_221205	✓
ES2243811-014	05-Dec-2022 12:54	0382_SW111_221205	✓
ES2243811-015	05-Dec-2022 09:20	0382_QC100_221205	✓
ES2243811-016	05-Dec-2022 11:31	0382_QC101_221205	✓
ES2243811-017	05-Dec-2022 10:10	0382_QC300_221205	✓

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 - ENMRG (ENMRG) — Email [redacted]
- EDI Format - ESDAT (ESDAT) — 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]
- 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]

[redacted]

- Chain of Custody (CoC) (COC) — Email [redacted]

CHAIN OF CUSTODY

(ALS) COC#: 45619 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 06/12/22 1355	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_20

SITE: 0382: LFS & Off-Site

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_MW112_221205		05/12/2022 12:06 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
002	0382_MW112P_221205		05/12/2022 12:01 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
003	0382_MW113_221205		05/12/2022 09:17 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
004	0382_MW119_221205		05/12/2022 12:38 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
005	0382_MW119P_221205		05/12/2022 12:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
006	0382_MW129_221205		05/12/2022 11:29 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
007	0382_MW130_221205		05/12/2022 09:40 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
008	0382_MW131_221205		05/12/2022 10:22 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
009	0382_MW133_221205		05/12/2022 10:11 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume

Environmental Division
Sydney
Work Order Reference
ES2243811

[redacted]

CHAIN OF CUSTODY

(ALS) COC#: 45619 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 06/12/22 1355	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_20

SITE: 0382: LFS & Off-Site

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
010	0382_MW134_221205		05/12/2022 11:47 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
011	0382_MW136_221205		05/12/2022 11:02 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume taken
012	0382_SW001_221205		05/12/2022 12:13 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
013	0382_SW059_221205		05/12/2022 11:31 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
014	0382_SW111_221205		05/12/2022 12:54 PM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
015	0382_QC100_221205		05/12/2022 09:20 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume
016	0382_QC101_221205		05/12/2022 11:31 AM	WATER	ALS: 4 Non ALS: 0	No	X		
017	0382_QC300_221205		05/12/2022 10:10 AM	WATER	ALS: 4 Non ALS: 0	No	X		Extra volume

CHAIN OF CUSTODY

(ALS) COC#: 45619 *ALS Laboratory:* ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_20

SITE: 0382: LFS & Off-Site

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 06/12/22 1355	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_MW112_221205	HDPE (no PTFE)	20 mL	00350522001998	Grey	No	
001	0382_MW112_221205	HDPE (no PTFE)	20 mL	00350522022311	Grey	No	
001	0382_MW112_221205	HDPE (no PTFE)	20 mL	00350522001988	Grey	No	
001	0382_MW112_221205	HDPE (no PTFE)	20 mL	00350522022368	Grey	No	
002	0382_MW112P_221205	HDPE (no PTFE)	20 mL	00350522002091	Grey	No	
002	0382_MW112P_221205	HDPE (no PTFE)	20 mL	00350522002052	Grey	No	
002	0382_MW112P_221205	HDPE (no PTFE)	20 mL	00350522002088	Grey	No	
002	0382_MW112P_221205	HDPE (no PTFE)	20 mL	00350522002126	Grey	No	
003	0382_MW113_221205	HDPE (no PTFE)	20 mL	00350522001890	Grey	No	
003	0382_MW113_221205	HDPE (no PTFE)	20 mL	00350522001968	Grey	No	
003	0382_MW113_221205	HDPE (no PTFE)	20 mL	00350522022277	Grey	No	
003	0382_MW113_221205	HDPE (no PTFE)	20 mL	00350522022514	Grey	No	
004	0382_MW119_221205	HDPE (no PTFE)	20 mL	00350821014985	Grey	No	
004	0382_MW119_221205	HDPE (no PTFE)	20 mL	00350821015036	Grey	No	
004	0382_MW119_221205	HDPE (no PTFE)	20 mL	00350821014929	Grey	No	
004	0382_MW119_221205	HDPE (no PTFE)	20 mL	00350821014956	Grey	No	
005	0382_MW119P_221205	HDPE (no PTFE)	20 mL	00350522001980	Grey	No	
005	0382_MW119P_221205	HDPE (no PTFE)	20 mL	00350522002114	Grey	No	
005	0382_MW119P_221205	HDPE (no PTFE)	20 mL	00350522002092	Grey	No	
005	0382_MW119P_221205	HDPE (no PTFE)	20 mL	00350522002026	Grey	No	
006	0382_MW129_221205	HDPE (no PTFE)	20 mL	00350522001833	Grey	No	
006	0382_MW129_221205	HDPE (no PTFE)	20 mL	00350522002112	Grey	No	
006	0382_MW129_221205	HDPE (no PTFE)	20 mL	00350522002027	Grey	No	
006	0382_MW129_221205	HDPE (no PTFE)	20 mL	00350522001879	Grey	No	
007	0382_MW130_221205	HDPE (no PTFE)	20 mL	00350522001871	Grey	No	
007	0382_MW130_221205	HDPE (no PTFE)	20 mL	00350522001926	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 45619 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 06/12/22 1355	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_20

SITE: 0382: LFS & Off-Site

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

007	0382_MW130_221205	HDPE (no PTFE)	20 mL	00350522001967	Grey	No	
007	0382_MW130_221205	HDPE (no PTFE)	20 mL	00350522001915	Grey	No	
008	0382_MW131_221205	HDPE (no PTFE)	20 mL	00350522001849	Grey	No	
008	0382_MW131_221205	HDPE (no PTFE)	20 mL	00350522002096	Grey	No	
008	0382_MW131_221205	HDPE (no PTFE)	20 mL	00350522001936	Grey	No	
008	0382_MW131_221205	HDPE (no PTFE)	20 mL	00350522001843	Grey	No	
009	0382_MW133_221205	HDPE (no PTFE)	20 mL	00350522002049	Grey	No	
009	0382_MW133_221205	HDPE (no PTFE)	20 mL	00350522001932	Grey	No	
009	0382_MW133_221205	HDPE (no PTFE)	20 mL	00350522001974	Grey	No	
009	0382_MW133_221205	HDPE (no PTFE)	20 mL	00350522001969	Grey	No	
010	0382_MW134_221205	HDPE (no PTFE)	20 mL	00350522002042	Grey	No	
010	0382_MW134_221205	HDPE (no PTFE)	20 mL	00350522001884	Grey	No	
010	0382_MW134_221205	HDPE (no PTFE)	20 mL	00350522002013	Grey	No	
010	0382_MW134_221205	HDPE (no PTFE)	20 mL	00350522002082	Grey	No	
011	0382_MW136_221205	HDPE (no PTFE)	20 mL	00350522001857	Grey	No	
011	0382_MW136_221205	HDPE (no PTFE)	20 mL	00350522002025	Grey	No	
011	0382_MW136_221205	HDPE (no PTFE)	20 mL	00350522002066	Grey	No	
011	0382_MW136_221205	HDPE (no PTFE)	20 mL	00350522002050	Grey	No	
012	0382_SW001_221205	HDPE (no PTFE)	20 mL	00350522002030	Grey	No	
012	0382_SW001_221205	HDPE (no PTFE)	20 mL	00350522001963	Grey	No	
012	0382_SW001_221205	HDPE (no PTFE)	20 mL	00350522001993	Grey	No	
012	0382_SW001_221205	HDPE (no PTFE)	20 mL	00350522002067	Grey	No	
013	0382_SW059_221205	HDPE (no PTFE)	20 mL	00350522002037	Grey	No	
013	0382_SW059_221205	HDPE (no PTFE)	20 mL	00350522001938	Grey	No	
013	0382_SW059_221205	HDPE (no PTFE)	20 mL	00350522001880	Grey	No	
013	0382_SW059_221205	HDPE (no PTFE)	20 mL	00350522002002	Grey	No	
014	0382_SW111_221205	HDPE (no PTFE)	20 mL	00350522001877	Grey	No	

CHAIN OF CUSTODY

(ALS) COC#: 45619 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 6/12/22 1355	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_20

SITE: 0382: LFS & Off-Site

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

014	0382_SW111_221205	HDPE (no PTFE)	20 mL	00350522001937	Grey	No	
014	0382_SW111_221205	HDPE (no PTFE)	20 mL	00350821015122	Grey	No	
014	0382_SW111_221205	HDPE (no PTFE)	20 mL	00350821014918	Grey	No	
015	0382_QC100_221205	HDPE (no PTFE)	20 mL	00350522002021	Grey	No	
015	0382_QC100_221205	HDPE (no PTFE)	20 mL	00350522001907	Grey	No	
015	0382_QC100_221205	HDPE (no PTFE)	20 mL	00350522001987	Grey	No	
015	0382_QC100_221205	HDPE (no PTFE)	20 mL	00350522001991	Grey	No	
016	0382_QC101_221205	HDPE (no PTFE)	20 mL	00350522002015	Grey	No	
016	0382_QC101_221205	HDPE (no PTFE)	20 mL	00350522001962	Grey	No	
016	0382_QC101_221205	HDPE (no PTFE)	20 mL	00350522001876	Grey	No	
016	0382_QC101_221205	HDPE (no PTFE)	20 mL	00350522002017	Grey	No	
017	0382_QC300_221205	HDPE (no PTFE)	20 mL	00350522001916	Grey	No	
017	0382_QC300_221205	HDPE (no PTFE)	20 mL	00350522002113	Grey	No	
017	0382_QC300_221205	HDPE (no PTFE)	20 mL	00350522001914	Grey	No	
017	0382_QC300_221205	HDPE (no PTFE)	20 mL	00350522001942	Grey	No	

Total Bottle Count: ALS: 68, Non ALS: 0

ALSCOR SAMPLING Intelligence

ALS

ALS Use Only

Custody Document for Submiss[illegible] ALS Compass App

Project: 60612562 PFAS OMP [illegible]ence

Project Manager: [redacted]

Phone: ([redacted])

ALS Compass COC Reference: 45[illegible] [illegible]17

Sampler: [redacted]

Phone: ([redacted])

Turnaround Requirements: Standa[illegible] [illegible]gent

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

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
[redacted]			
Date / Time: 5/12/22 3:00 pm	**Date / Time:**	**Date / Time:**	**Date / Time:**

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
[redacted]

CERTIFICATE OF ANALYSIS 312348

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_6.1,NSW_0382_PFASOMP_20**
Number of Samples	2 Water
Date samples received	06/12/2022
Date completed instructions received	06/12/2022

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	13/12/2022
Date of Issue	12/12/2022

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] Organics Development Manager, Sydney

Authorised By

[redacted]

[redacted] Laboratory Manager

PFAS in Waters Extended			
Our Reference		312348-1	312348-2
Your Reference	UNITS	0382_QC200_221205	0382_QC201_221205
Date Sampled		05/12/2022	05/12/2022
Type of sample		Water	Water
Date prepared	-	09/12/2022	09/12/2022
Date analysed	-	09/12/2022	09/12/2022
Perfluorobutanesulfonic acid	µg/L	0.02	0.01
Perfluoropentanesulfonic acid	µg/L	0.02	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.07	0.07
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.16	0.12
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	0.02
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*	%	103	101
Surrogate $^{13}C_2$ *PFOA*	%	106	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	103	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	106
Extracted ISTD $^{13}C_4$ *PFOS*	%	106	105

PFAS in Waters Extended			
Our Reference		312348-1	312348-2
Your Reference	UNITS	0382_QC200_221205	0382_QC201_221205
Date Sampled		05/12/2022	05/12/2022
Type of sample		Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	110	102
Extracted ISTD $^{13}C_3$ *PFPeA*	%	98	99
Extracted ISTD $^{13}C_2$ *PFHxA*	%	111	110
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	109	112
Extracted ISTD $^{13}C_5$ *PFNA*	%	118	113
Extracted ISTD $^{13}C_2$ *PFDA*	%	110	110
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	111	110
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	105	98
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	88	86
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	116	130
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	117	126
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	118	128
Extracted ISTD $^{13}C_8$ *FOSA*	%	102	99
Extracted ISTD d_3 *N MeFOSA*	%	109	107
Extracted ISTD d_5 *N EtFOSA*	%	109	107
Extracted ISTD d_7 *N MeFOSE*	%	114	111
Extracted ISTD d_9 *N EtFOSE*	%	111	109
Extracted ISTD d_3 *N MeFOSAA*	%	121	133
Extracted ISTD d_5 *N EtFOSAA*	%	104	110
Total Positive PFHxS & PFOS	µg/L	0.24	0.19
Total Positive PFOA & PFOS	µg/L	0.16	0.12
Total Positive PFAS	µg/L	0.27	0.22

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	-			09/12/2022	[NT]	[NT]	[NT]	[NT]	09/12/2022	[NT]
Date analysed	-			09/12/2022	[NT]	[NT]	[NT]	[NT]	09/12/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	92	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	107	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	114	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	100	[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]	107	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	97	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	[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	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	102	[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]	103	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	121	[NT]	[NT]	[NT]	[NT]	120	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	125	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	125	[NT]	[NT]	[NT]	[NT]	117	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	112	[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	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	132	[NT]	[NT]	[NT]	[NT]	119	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	110	[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
[redacted]

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	60612562_6.1,NSW_0382_PFASOMP_20
Envirolab Reference	312348
Date Sample Received	06/12/2022
Date Instructions Received	06/12/2022
Date Results Expected to be Reported	13/12/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8
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

[redacted]

Sample ID	PFAS in Waters Extended
0382_QC200_221205	✓
0382_QC201_221205	✓

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.

AECOM

Chain of Custody

AECOM Australia Pty Ltd
Level 21, 420 George Street
Sydney, NSW, 2000
PO Box Q410, QVB PO, Sydney, NSW, 1230
T [redacted]
F
Email reports to: [redacted]

Laboratory Details
Lab. Name: Envirolab
Tel: [redacted]
Lab. Address: 12 Ashley St, Chaswood NSW 2067
Contact Name:
Lab. Ref:
Lab Quote No:

Sampled By: [redacted]
Project Name: NSW_0382_PFASOMP_20
AECOM Project #: 60612562_6.1
Purchase Order No:

Specifications: Please report in ESdat format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr 5 days) Standard TAT	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions? ~~Yes~~ No	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details:)	
6. Report Format: ESdat — 7. Project Manager: [redacted]	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Analysis Request: PFAS in Water Extended
1	0382_QC200_221205	5/12/2022		X				X		4x plastic 20mL	X
2	0382_QC201_221205	5/12/2022		X				X		4x plastic 20mL	X

Envirolab Services
12 Ashley St
[redacted]
Job No: 312348.
Date Received: 06/12/22.
Time Received: 1115.
Received By: [redacted]
Temp: Cool/Ambient
Cooling: Ice/Icepack/None
Security: Intact/Broken/None

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

Temp. received: °C
Report & Invoice: [redacted]
Lab Report No. / Esky ID

Relinquished by: [redacted]	Signed: [redacted]	Date: 5/12/22	Relinquished by:	Signed:	Date: 6/12
Received by:	Signed:	Date: 06/12/22	Received by:	Signed:	Date: 1115

1115

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, March 2023

PFAS OMP - Holsworthy

02-Jun-2023
Doc No. 20230602_OMP002_HOLS_SamplingEventFactualReport_Rev-0

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Delivering a better world

Sampling Event Factual Report, March 2023

PFAS OMP - Holsworthy

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8008 1700 www.aecom.com
ABN 20 093 846 925

02-Jun-2023

Job No.: 60612562

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

Quality Information

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Date	02-Jun-2023
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Reviewed by	[redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	5-April-2023	Draft	[redacted]	
B	18-May-2023	Draft		
0	02-June-2023	Final		[redacted]

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
AIR	Annual Interpretive Report
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
OMP	Ongoing Monitoring Plan
ORP	Oxidation Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane NHMRC 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
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	MicroSiemens 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 Holsworthy Barracks (hereafter referred to as the 'Site') in the New South Wales (NSW) and Jervis Bay Territory (JBT) Region. The location of the Site is shown in **Figure F1** in **Appendix A**.

The OMP (Defence, 2020a) outlines the sampling requirements for the Site and off-Site areas.

Following each sampling event, factual sampling event reports will be prepared. Annual interpretive reports will be prepared following the completion of each 12-month sampling period.

This Sampling Event Factual Report has been prepared to report the results of the March 2023 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).

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2020a) 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, 2020b).

The objective of this phase of works was to implement the scope of works for the March 2023 biannual sampling event in accordance with the Sampling and Analysis Quality Plan (SAQP) (AECOM, 2022).

2.0 Scope of Work

The scope of works was completed in general accordance with the SAQP (AECOM, 2022), 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
- groundwater sampling and collection of water quality parameters at 23 of 24 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations)
- surface water sampling and collection of water quality parameters at 17 of 17 scheduled surface water locations (refer to **Table 2** below and **Figure F3** in **c** 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 full PFAS suite at the standard LOR
- data management of the OMP field and laboratory data in Defence ESdat database
- preparation of this Sampling Event Factual Report.

Note: due to privacy considerations, selected monitoring locations are unable to be shown on the figures in **Appendix A**.

Table 1 Groundwater Sampling Locations

Area	Description	Sampling Location	Total
On-Site	Cantonment and Driver Training Area	MW120, MW121, MW122, MW123, MW124, MW323, MW349	7
	Former 85 Transport Area	MW117, MW330	2
	Former STP Area	MW002, MW005, MW301	3
Off-Site Road Reserve	Off-site road verges associated with Liverpool Fire Station	MW112, MW112P, MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136	10
Off-Site Commercial Property	Liverpool Fire Station	MW113, MW115*	2
Total			**24**
* Location not sampled			

Table 2 Surface Water Sampling Locations

Area	Sampling Location	Total
On-Site	Former 85 Transport Area	3
	Luscombe Airfield (Williams Creek and Harris Creek)	4
	Former STP Area	4
Off-Site	Georges River	3
	Liverpool Fire Station	3
Total		**17**

3.0 Deviations from the SAQP

The March 2023 biannual sampling event was completed in general accordance with the SAQP (AECOM, 2022) with the exception of the deviations outlined in **Table 3** below.

Table 3 Deviations from SAQP (AECOM, 2022)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, as well as associated gauging and water quality parameters, were not collected from one of the 24 scheduled groundwater sampling locations.	Groundwater monitoring well MW115 was not accessible during this monitoring event due to a demountable building being placed over the well within the Liverpool Fire Station (LFS). AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	The lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be representative of PFAS concentrations within the LFS area.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the March 2023 biannual sampling event was in accordance with the SAQP (AECOM, 2022) and is summarised in **Table 4** below.

Table 4 Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe. Measurements of depth to groundwater were undertaken using an interface probe, which was serviced by the supplier prior to use. The equipment supplier records are provided in **Appendix C**.
Water quality 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. Water quality parameters were collected using a calibrated water quality meter (WQM). The equipment supplier and field calibration records are provided in **Appendix C**.
Sampling methodology	**Groundwater Monitoring Wells** The majority of 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 24 hours prior to the sampling round, based on a review of the well construction log. For this event, all the HydraSleeves™ were installed during previous quarterly or biannual sampling event in December 2022 and September 2022 respectively. 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. At locations where the HydraSleeves™ failed to deploy, or had been removed prior to the sampling event, AECOM collected groundwater samples using dedicated, disposable bailers. During this sampling event, bailers were used at MW005 and MW134. It is noted that a HydraSleeve was not able to be installed in MW005 following sampling as the monitoring well was damaged. **Surface Water** Surface water samples were collected from immediately below the water surface (approximately 10 centimetres [cm] below the surface water level, where depth permitted) to minimise collection of sediment, 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.

Item	Details
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 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. • *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 limit of reporting (LOR). For this March 2023 biannual sampling event, the QA/QC samples included: • 4 x intra-laboratory duplicates (2 x groundwater, 2 x surface water), which met the target frequency • 4 x inter-laboratory duplicates (2 x groundwater, 2 x surface water) which met the target frequency • 3 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 full PFAS suite at the standard 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 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 5** below.

Table 5 Summary of Adopted Screening Criteria: Water

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water – groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP (2020) are from the 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 Food Standards Australia New Zealand (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. 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	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. These values were adopted by the HEPA NEMP 2.0 (2020). *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater	PFOS	0.13 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 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results were compared to these criteria.*
	PFOA	220 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 (AECOM, 2022). 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 outside historical ranges at MW330, the primary laboratory was requested to repeat the analysis to confirm the reported concentrations. The repeat analysis confirmed the originally reported concentrations. Further details are provided in **Appendix D**.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) 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 March 2023 biannual sampling event completed between 13 and 15 March 2023 are summarised in **Table 6** below.

Table 6 General Observations

Items	Observations
Weather Conditions	During the sampling event, the weather was observed to be warm, with maximum daily temperatures between 23.6˚C (14 March) and 29.4˚C (15 March). A cumulative 20.2 mm of rainfall was recorded at Holsworthy (Holsworthy Aerodrome AWS, 66161) (Bureau of Meteorology, 2021) during the sampling event, with most of the rainfall recorded on 15 March 2023.
Estate Management Works, Training Activities and/or Construction Works.	During the sampling event, a demountable structure was found to be placed over monitoring well MW115, within the LFS. The demountable is understood to be a temporary structure housing the Busby Fire Station for a period of 12 to 18 months (from December 2022), impeding access to MW115 during this period. No other 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 March 2023 biannual sampling event are summarised in **Table 7**, below.

Table 7 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	The wells sampled were observed to be in good condition with the exception of the following: • MW005 was identified to have damaged casing. No monument was present around the well casing and no j-cap was present on the well.
Water Observations	No visible signs of contamination were observed in groundwater and surface water at the locations sampled. Organic odours were noted at one groundwater location (MW136) and four surface water locations (SW017, SW030, SW063 and SW105). A biosheen was observed at two surface water locations (SW059 and SW111).

Item	Description
Depth to Groundwater and Flow Direction	Depth to groundwater ranged from 1.101 (MW129) and 13.509 (MW117) metres below top of casing (mbTOC). Groundwater elevation ranged between 1.0896 (MW005) and 28.184 (MW323) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. The inferred local groundwater flow direction was predominantly to the northeast across the majority of the Site with flow to the northwest (towards Georges River) at the western boundary in the vicinity of the Former 85 Transport Area (refer to **Figure F4** in **Appendix A**). Groundwater in the vicinity of the Liverpool Fire Station was generally flat with a slight trend down towards the east and north-east, which is generally consistent with the inferred groundwater flow direction described in the Detailed Site Investigation (CH2M Hill, 2018). It is noted that gauging data from five wells (MW112P, MW119P, MW133, MW134 and MW136) in the vicinity of the Fire Station were excluded from the groundwater elevation plan in **Figure F4** in **Appendix A** due to the wells being screened across discontinuous perched water.
Water Quality Parameters	Groundwater and surface water quality 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 Quality Parameters** • Dissolved oxygen ranged from 0.23 mg/L (MW002 and MW330) to 3.14 mg/L (MW134) indicating poor to well oxygenated conditions. • Electrical conductivity ranged from 245.4 µS/cm (MW113) to 11,200 µS/cm (MW323) indicating fresh to saline conditions. • pH ranged from 3.98 (MW330) to 7.00 (MW119) indicating acidic to neutral conditions. • Redox (corrected) ranged from 138.4 mV (MW129) to 503.8 mV (MW330) indicating moderately reducing to oxidising conditions. **Surface Water Quality Parameters** • Dissolved oxygen ranged from 0.23 mg/L (SW104) to 6.09 mg/L (SW017) indicating poor to well oxygenated conditions. • Electrical conductivity ranged from 176 µS/cm (SW001) to 6,936 µS/cm (SW012) indicating fresh to saline conditions. • pH ranged from 5.66 (SW030) to 7.14 (SW012) indicating moderately acidic to neutral conditions. • Redox (corrected) ranged from 100.9 mV (SW105) to 390.5 mV (SW030) indicating moderately reducing conditions. • Temperature ranged from 20.3 ˚C (SW001) to 26.3 ˚C (SW038).

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 T4** in **Appendix B**. In summary, 23 primary groundwater samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 17 primary samples
- PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in 17 primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in 10 primary samples.

Deviations from the historical dataset are reported in **Table 8**. Deviations have not been displayed graphically, in this instance, due to privacy considerations.

Table 8 Deviations from Historical Dataset: Groundwater

Deviation Type	Groundwater sampling location	Sum of PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		Mar 2023	Previous maximum	Mar 2023	Previous maximum	Mar 2023	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in monitoring wells	MW130	There were no first-time detections in the dataset.		0.01	<LOR	There were no first-time detections in the dataset.	
	MW131	0.23	0.15	0.01	<LOR	0.19	0.12
New exceedance of the NEMP (HEPA, 2020) drinking water guidelines monitoring wells	MW129	0.08	0.06	<LOR	<LOR	There are no applicable NEMP Human Health Screening Criteria.	
New exceedance of the NEMP (HEPA, 2020) Freshwater 95% guidelines in monitoring wells	MW131	There are no applicable NEMP Ecological Screening Criteria (95%).		0.01	<LOR	0.19	0.12
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 exceedances of NEMP Human Health and/or Ecological Screening Criteria						

5.3.2 Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, 17 primary surface water samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 14 primary samples
- PFOS+PFHxS and/or PFOA did not exceed the adopted human health screening criteria for recreational use in the primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in 4 primary samples.

There were no first-time detections, or new exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA, in the surface water samples analysed.

5.4 Historical Sampling Data

Historical groundwater and surface water sampling data are presented in **Tables T6** and **T7** (respectively) in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The March 2023 biannual sampling event was completed between 13 and 15 March 2023. The findings and the recommended actions are summarised in **Table 9** below.

Table 9 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following were accessed and able to be sampled: • 23 groundwater locations • 17 surface water locations	Nil.
Location unable to be located, inaccessible or dry	Sampling at one monitoring well (MW115) was not completed as the location was covered by a demountable building within the LFS area.	AECOM understands that this building is temporary and will remain for a period of 12 to 18 months (from December 2022). AECOM will monitor this location during the next scheduled sampling event (June 2023), if the building is removed.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition, with the exception of one monitoring well (MW005), which had a damaged PVC casing.	AECOM proposes to mobilise ahead of the next sampling event to repair the damaged casing at MW005.
Analytical Results	23 groundwater primary samples and 17 surface water primary samples were analysed.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.
First-time detections of PFOS+PFHxS, PFOS and/or PFOA	Two monitoring wells (MW130 and MW131) out of the 23 sampled reported first-time detections of PFOS+PFHxS and/or PFOA in groundwater. No surface water locations sampled reported first-time detections of PFOS+PFHxS, PFOA and/or PFOS.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.
New exceedance of adopted human health screening criteria	One monitoring well out of the 23 sampled (MW129) reported new exceedances of the adopted human health screening criteria for PFOS+PFHxS and/or PFOA. No surface water locations reported new exceedances of 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.

Item	Comment	Recommended Action
New exceedance of adopted ecological screening criteria	One monitoring well out of the 23 sampled (MW131) reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA. No surface water locations reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA.	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 June 2023.

6.3 Upcoming Annual Interpretive Report

The next annual interpretive report is scheduled to be delivered in Q2 2023, covering data that was collected within the 12-month sampling period between September 2021 and September 2022.

7.0 References

AECOM, 2022. *Holsworthy Barracks - Sampling and Analysis Quality Plan, PFAS OMP*. Revision H, 23 August 2022.

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CH2M Hill, 2018. *Holsworthy Barracks - PFAS Investigations - Detailed Site Investigation.* Revision 2.0, November 2018.

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Department of Defence, 2020b. *PFAS Management Area Plan - Holsworthy Barracks.* July 2020

Department of Defence, 2021. *PFAS OMP Factual Report Guidance (Version 0.2)*. May 2021.

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 Health and Medical Research Council (NHMRC), 2011. *Australian Drinking Water Guidelines 6, 2011. Version 3.7 Updated January 2022*. January 2022.

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.*

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 (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*

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

Appendix A

Figures

Appendix A Figures

AECOM

N

0 500 1,000 m

Legend

- Site Boundary
- Primary Source Area
- Study Area

FIGURE F1:
STUDY AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
March 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 250 500 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater location (not sampled)
- Groundwater location (sampled)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

FIGURE F2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
March 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 250 500 m

Legend

- Site Boundary
- Primary Source Area
- Surface Water Location (sampled)

FIGURE F3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
March 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 250 500 m

Legend

- 10m Contour
- Groundwater Contour (March 2023)
- Inferred Groundwater Flow Direction
- Groundwater location (not gauged or accessed)
- Groundwater location (gauged)
- 27.906 Groundwater Elevation (mAHD)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

(*) Groundwater elevation data excluded from contouring

FIGURE F4:
GROUNDWATER ELEVATION

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
March 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

Appendix B

Tables

Appendix B Tables

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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
MW002	MW02	3.530	Unknown	Unknown	2.20	15/03/2023 8:35	1.777	1.753	3.75	Good condition. No monument around well casing.
MW005	MW05	3.157	Unknown	Unknown	3.00	14/03/2023 14:57	2.067	1.090	4	No monument around well casing. Well casing bent. No J-cap on well. No Hydrasleeve in well. Hydrasleeve unable to be installed after gauging due to damage.
MW112	BH112	13.420	10.3	13.3	12.00	13/03/2023 11:07	4.183	9.237	13.2	Good condition
MW112P	BH112_P	13.430	2	5	3.50	13/03/2023 11:22	1.681	11.749	5.12	Good condition
MW113	BH113	13.460	10.9	14.9	12.00	13/03/2023 10:52	4.499	8.961	14.8	Good condition
MW115	BH115	14.080	10.1	13.1	n/a	13/03/2023 11:01	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW117	BH117	18.130	13	17.5	16.00	14/03/2023 9:40	13.509	4.621	18.55	Good condition
MW119	BH119	11.010	8	11	9.50	13/03/2023 11:53	2.489	8.521	11.31	Good condition
MW119P	BH119_P, MW119S	11.120	2	5	3.00	13/03/2023 11:59	2.561	8.559	4.65	Good condition
MW120	BH120	17.270	11.5	14.5	12.00	14/03/2023 11:49	2.507	14.763	15.09	Good condition
MW121	BH121	16.470	15.3	18.3	15.00	14/03/2023 11:36	3.992	12.478	17.17	Good condition
MW122	BH122	18.540	11.5	14.5	12.00	14/03/2023 13:14	7.309	11.231	15.31	Good condition
MW123	BH123	7.070	2	6	5.00	15/03/2023 14:01	2.491	4.579	6.81	Good condition
MW124	BH124	6.390	2	5	3.00	15/03/2023 13:42	3.704	2.686	5	Good condition
MW129		9.526	5	8	6.50	13/03/2023 9:47	1.101	8.425	7.7	Good condition
MW130		12.986	6	9	7.50	13/03/2023 8:42	4.438	8.548	8.7	Good condition
MW131		12.179	7	10	8.50	13/03/2023 9:11	3.591	8.588	9.97	Good condition
MW133	MW133P	13.350	2	4	3.00	13/03/2023 8:57	3.419	9.931	4.88	Good condition
MW134		13.210	1.9	3.9	3.00	13/03/2023 10:23	3.984	9.226	4.68	Good condition
MW136	MW136P	11.860	2.25	4.25	3.00	13/03/2023 9:32	3.019	8.841	4.96	Good condition
MW301	MW1	3.383	Unknown	Unknown	3.00	14/03/2023 16:05	1.608	1.775	4.57	Good condition. No monument around well casing.
MW323	BH345	36.380	Unknown	Unknown	13.00	15/03/2023 12:55	8.196	28.184	15.19	Good condition
MW330	BH365	29.530	Unknown	Unknown	8.00	14/03/2023 8:37	5.218	24.312	9.91	Good condition
MW349	BH612	18.420	3.9	8.2	6.00	15/03/2023 13:27	4.084	14.336	7.69	Good condition

Notes

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

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Table T2 - Groundwater Quality Parameters and Observations

				Water Quality Parameters					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Alternative Name**	**Sampled Date Time**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
MW002	MW02	15/03/2023 8:40	Light brown, low turbidity, no odour, no sheen.	0.23	20.3	251.2	6.07	-64.0	141.8
MW005	MW05	14/03/2023 15:00	Clear, low turbidity, no odour, no sheen. Sampled with bailer.	0.28	19.4	3006.0	6.48	-52.6	153.2
MW112	BH112	13/03/2023 10:10	Clear, low turbidity, no odour, no sheen.	0.92	20.5	1925.0	6.03	110.8	316.6
MW112P	BH112_P	13/03/2023 11:25	Clear, low turbidity, no odour, no sheen.	1.22	22.6	353.9	5.09	201.8	407.6
MW113	BH113	13/03/2023 10:55	Clear, medium turbidity, no odour, no sheen.	1.79	20.3	245.4	5.29	126.1	331.9
MW115	BH115	-	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	-	-	-	-	-	-
MW117	BH117	14/03/2023 09:45	Clear, no turbidity, no odour, no sheen.	1.23	19.1	798.0	5.37	38.8	244.6
MW119	BH119	13/03/2023 11:55	Light brown, no turbidity, no odour, no sheen.	2.21	20.3	982.0	7.00	133.3	339.1
MW119P	BH119_P, MW119S	13/03/2023 12:00	Clear, no turbidity, no odour, no sheen.	2.69	21.6	839.0	5.25	218.1	423.9
MW120	BH120	14/03/2023 11:55	Orange, low turbidity, no odour, no sheen.	0.45	19.2	6451.0	6.62	-4.7	201.1
MW121	BH121	14/03/2023 11:40	Light brown, low turbidity, no odour, no sheen.	0.25	19.1	3367.0	6.39	88.8	294.6
MW122	BH122	14/03/2023 13:19	Clear, low turbidity, no odour, no sheen.	1.39	19.8	528.0	5.54	202.0	407.8
MW123	BH123	15/03/2023 14:05	Orange, low turbidity, no odour, no sheen.	1.14	23.2	9823.0	6.64	-7.0	198.8
MW124	BH124	15/03/2023 13:45	Light brown, low turbidity, no odour, no sheen.	1.29	24.4	6150.0	5.31	124.6	330.4
MW129		13/03/2023 9:50	Light brown, low turbidity, no odour, no sheen.	0.30	21.9	1177.0	6.44	-67.4	138.4
MW130		13/03/2023 08:44	Clear, low turbidity, no odour, no sheen.	0.75	21.3	1860.0	5.71	170.0	375.8
MW131		13/03/2023 09:20	Clear, no turbidity, no odour, no sheen.	1.55	21.3	1649.0	5.40	162.2	368.0
MW133	MW133P	13/03/2023 08:59	Clear, low turbidity, no odour, no sheen.	1.79	23.7	361.3	5.68	115.6	321.4
MW134		13/03/2023 10:25	Brown, high turbidity, no odour, no sheen. Sampled with bailer due to insufficient water in the well.	3.14	21.6	387.9	6.15	24.2	230.0
MW136	MW136P	13/03/2023 09:36	Dark grey, low turbidity, organic odour, no sheen.	1.91	22.8	1409.0	6.02	-59.0	146.8
MW301	MW1	14/03/2023 16:10	Light brown, low turbidity, no odour, no sheen.	1.69	22.3	1181.0	6.29	29.2	235.0
MW323	BH345	15/03/2023 13:00	Clear, no turbidity, no odour, no sheen.	1.28	22.6	11200.0	6.61	-25.4	180.4
MW330	BH365	14/03/2023 08:40	Light brown, medium turbidity, no odour, no sheen.	0.23	22.1	5810.0	3.98	298.0	503.8
MW349	BH612	15/03/2023 13:30	Clear, low turbidity, no odour, no sheen.	0.46	24.3	7800.0	5.33	118.4	324.2

Notes

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

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Table T3 - Surface Water Quality Parameters and Observations

				Water Quality Parameters					
				Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Sampled Date Time**	**Location Comments**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
SW001	15/03/2023 14:40	Drainage channel, 1 m wide, 0.1 m deep, reeds. Water flow observed.	Light yellow, medium turbidity, no odour, no sheen.	2.30	20.3	176.0	6.31	167.4	373.2
SW009	13/03/2023 13:00	River, 10 m wide, unknown depth, no flow observed, reeds on banks. Water flow not observed.	Light yellow, low turbidity, no odour, no sheen.	2.93	23.4	365.5	6.24	90.2	296.0
SW011	15/03/2023 9:15	River, 30 m wide, unknown depth, mangroves on banks. Water flow observed.	Light brown, medium turbidity, no odour, no sheen.	5.58	21.7	2248.0	6.71	-7.2	198.6
SW012	14/03/2023 15:20	Creek, 20 m wide, unknown depth, light vegetation on banks. Water flow observed.	Light brown, low turbidity, no odour, no sheen.	3.41	24.1	6936.0	7.14	30.1	235.9
SW014	15/03/2023 9:40	River, 25 m wide, unknown depth, light shrubs. Water flow observed.	Light brown, low turbidity, no odour, no sheen.	2.31	23.0	3757.0	7.00	31.9	237.7
SW015	13/03/2023 13:20	Creek, 2 m wide, 0.5 m deep, reeds and small shrubs on bank. Water flow observed.	Light yellow, low turbidity, no odour, no sheen.	3.37	22.0	349.1	6.46	41.2	247.0
SW017	14/03/2023 14:45	Creek, 6 m wide, unknown depth, shurbs on banks. Water flow observed.	Light brown, low turbidity, organic odour, no sheen.	6.09	21.9	763.0	6.70	129.7	335.5
SW025	13/03/2023 13:50	River, 20 m wide, unknown depth, shurbs on banks. Water flow observed.	Light yellow, no turbidity, no odour, no sheen.	5.74	23.5	259.1	7.06	65.5	271.3
SW030	15/03/2023 11:49	Creek, 1 m wide, 20 cm depth, leaf litter. Water flow not observed.	Dark brown, medium turbidity, organic odour, no sheen.	4.02	24.0	256.6	5.66	184.7	390.5
SW038	15/03/2023 12:40	Creek, 0.5 m wide, 0.1m deep, small shrubs on sides. Water flow observed.	Clear, no turbidity, no odour, no sheen.	4.42	26.3	304.0	6.96	86.4	292.2
SW059	13/03/2023 10:00	Creek, 2 m wide, 0.5 m deep, small shrubs on banks. Water flow not observed.	Light grey, low turbidity, no odour, biosheen.	3.21	21.2	387.9	6.67	31.0	236.8
SW062	13/03/2023 14:10	River, 20 m wide, trees on banks, unknown depth. Water flow observed.	Light yellow, low turbidity, no odour, no sheen.	3.62	24.5	264.8	6.96	102.9	308.7
SW063	14/03/2023 10:03	River, 10m wide, unknown depth, mangroves on banks. Water flow observed.	Brown, low turbidity, organic odour, no sheen.	3.14	22.5	264.3	6.88	25.9	231.7
SW103	14/03/2023 8:50	Drainage channel, 5 m long, 0.75 m wide, anthropogenic material in water. Water flow not observed.	Blue, medium turbidity, no odour, no sheen.	0.89	21.1	669.0	6.91	-39.7	166.1
SW104	14/03/2023 8:58	Covered pit, 4 m long, 0.75m wide. Water flow not observed.	Blue, low turbidity, no odour, no sheen.	0.23	22.9	523.0	6.95	-98.3	107.5
SW105	14/03/2023 9:05	Covered pit, 4 m long, 0.75 m wide. Water flow not observed.	Blue, low turbidity, organic odour, no sheen.	0.56	22.9	451.2	6.90	-104.9	100.9
SW111	13/03/2023 11:45	Creek, 3 m wide, unknown depth, no flow, biosheen, reeds on banks. Water flow not observed.	Light yellow, no turbidity, no odour, biosheen.	3.26	20.7	195.6	6.50	154.3	360.1

Notes

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

Table T4 - Groundwater Analytical Results

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					Per- and Polyfluoroalkyl Substances																																	
					Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanesulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Sum of PFAS	Sum of PFAS (WA DER List)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																													
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																														
Location_Code	**Date**	**Field_ID**	**Sample_Type**	**Lab_Report #**																																	
MW002	15/03/2023	0382_MW002_230315	Normal	ES2308600	0.09	0.02	0.09	**0.11**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	0.03	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.25	0.22
MW005	14/03/2023	0382_MW005_230314	Normal	ES2308600	0.02	0.04	0.06	**0.1**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.2	0.2
MW112	13/03/2023	0382_MW112_230313	Normal	ES2308600	**2.65**	40.4	*27.2*	**67.6**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.46	0.7	<0.02	<0.02	<0.02	3.02	1.03	5.46	<0.02	<0.02	4.96	1.07	<0.05	<0.02	<0.02	90	82
MW112P	13/03/2023	0382_MW112P_230313	Normal	ES2308600	0.18	4.98	*18.7*	**23.7**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.1	<0.02	<0.02	<0.02	0.22	0.07	1.04	<0.02	<0.02	0.28	0.16	<0.05	<0.02	<0.02	25.9	25.4
MW112P	13/03/2023	0382_QC102_230313	Field_D	ES2308600	0.17	4.48	*17.2*	**21.7**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.1	<0.02	<0.02	<0.02	0.22	0.07	0.96	<0.02	<0.02	0.3	0.17	<0.05	<0.02	<0.02	23.8	23.3
MW112P	13/03/2023	0382_QC202_230313	Interlab_D	318769	0.19	3.7	*13*	**17**	<0.02	<0.01	<0.01	<0.02	<0.1	<0.02	<0.5	<0.05	<0.02	<0.05	0.15	0.1	<0.02	<0.02	<0.05	0.16	0.07	0.84	<0.01	<0.1	0.23	0.2	<0.5	<0.1	<0.02	19	-
MW113	13/03/2023	0382_MW113_230313	Normal	ES2308600	**24**	331	*403*	**734**	<0.05	<0.05	5.99	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	49.1	6.7	0.08	<0.05	<0.05	31.3	11.4	69.2	0.34	<0.05	58.2	15.4	<0.12	<0.05	<0.05	1000	916
MW117	14/03/2023	0382_MW117_230314	Normal	ES2308600	<0.01	0.06	*0.46*	**0.52**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.55	0.52
MW119	13/03/2023	0382_MW119_230313	Normal	ES2308600	**0.86**	13.7	*33.8*	**47.5**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.79	0.8	<0.02	<0.02	<0.02	0.64	0.52	3.72	<0.02	<0.02	2.04	1.04	<0.05	<0.02	<0.02	58.9	56.2
MW119P	13/03/2023	0382_MW119P_230313	Normal	ES2308600	**6.16**	91	*230*	**321**	<0.05	<0.05	0.18	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	5.18	0.9	<0.05	<0.05	<0.05	9.38	1.92	10.3	0.08	<0.05	8.72	1.53	<0.12	<0.05	<0.05	365	347
MW120	14/03/2023	0382_MW120_230314	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW121	14/03/2023	0382_MW121_230314	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW122	14/03/2023	0382_MW122_230314	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW123	15/03/2023	0382_MW123_230315	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW124	15/03/2023	0382_MW124_230315	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	0.02
MW129	13/03/2023	0382_MW129_230313	Normal	ES2308600	<0.01	0.02	0.06	**0.08**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.08	0.08
MW130	13/03/2023	0382_MW130_230313	Normal	ES2308600	0.01	0.06	0.05	**0.11**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.02	<0.05	<0.02	<0.02	0.19	0.19
MW131	13/03/2023	0382_MW131_230313	Normal	ES2308600	0.01	0.04	*0.19*	**0.23**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.24	0.24
MW131	13/03/2023	0382_QC100_230313	Field_D	ES2308600	<0.01	0.03	0.12	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.15	0.15
MW131	13/03/2023	0382_QC200_230313	Interlab_D	318769	<0.01	0.03	0.1	**0.13**	<0.02	<0.01	<0.01	<0.02	<0.1	<0.02	<0.5	<0.05	<0.02	<0.05	<0.01	<0.02	<0.02	<0.02	<0.05	<0.01	<0.01	0.01	<0.01	<0.1	<0.01	<0.02	<0.5	<0.1	<0.02	0.14	-
MW133	13/03/2023	0382_MW133_230313	Normal	ES2308600	**4.12**	33.8	*666*	**700**	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12	2.05	1.7	<0.05	<0.05	<0.05	17.3	0.69	8.92	0.1	<0.05	3.08	2.08	<0.12	<0.05	<0.05	740	719
MW134	13/03/2023	0382_MW134_230313	Normal	ES2308600	0.02	0.63	*0.32*	**0.95**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.43	<0.02	<0.02	0.14	0.18	<0.05	<0.02	<0.02	2.08	1.94
MW136	13/03/2023	0382_MW136_230313	Normal	ES2308600	<0.01	0.16	0.09	**0.25**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	0.05	<0.02	<0.05	<0.02	<0.02	0.42	0.37
MW301	14/03/2023	0382_MW301_230314	Normal	ES2308600	<0.01	0.05	0.02	**0.07**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.07	0.07
MW323	15/03/2023	0382_MW323_230315	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
MW330	14/03/2023	0382_MW330_230314	Normal	ES2308600	**8.38**	106	*23.4*	**129**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.5	2.2	<0.02	<0.02	<0.02	5.16	2.64	29.3	<0.02	<0.02	10.2	4.78	<0.05	<0.02	<0.02	196	180
MW349	15/03/2023	0382_MW349_230315	Normal	ES2308600	0.01	0.32	0.05	**0.37**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.08	<0.02	<0.05	<0.02	<0.02	0.55	0.47

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 T5 - Surface Water Analytical Results

AECOM

					Per- and Polyfluoroalkyl Substances																															
					Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanesulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Sum of PFAS	Sum of PFAS (WA DER List)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																											
Location_Code	**Date**	**Field_ID**	**Sample_Type**	**Lab_Report #**																															
SW001	15/03/2023	0382_SW001_230315	Normal	ES2308600	0.01	0.12	*0.26*	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.02	<0.05	<0.02	<0.02	0.45	0.45
SW009	13/03/2023	0382_SW009_230313	Normal	ES2308600	0.01	0.13	*0.19*	0.32	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.36	0.36
SW011	15/03/2023	0382_SW011_230315	Normal	ES2308600	0.01	0.07	0.07	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.17	0.17
SW012	14/03/2023	0382_SW012_230314	Normal	ES2308600	<0.01	0.02	0.03	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.05	0.05
SW014	15/03/2023	0382_SW014_230315	Normal	ES2308600	<0.01	0.02	0.02	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.04	0.04
SW015	13/03/2023	0382_SW015_230313	Normal	ES2308600	0.01	0.08	0.07	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.18	0.18
SW017	14/03/2023	0382_SW017_230314	Normal	ES2308600	<0.01	0.06	0.06	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.14	0.14
SW025	13/03/2023	0382_SW025_230313	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
SW030	15/03/2023	0382_SW030_230315	Normal	ES2308600	0.02	0.92	*0.8*	1.72	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	<0.02	<0.02	0.11	<0.02	<0.05	<0.02	<0.02	2.1	1.96
SW038	15/03/2023	0382_SW038_230315	Normal	ES2308600	<0.01	0.21	*0.2*	0.41	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	0.03	<0.02	<0.05	<0.02	<0.02	0.51	0.48
SW059	13/03/2023	0382_SW059_230313	Normal	ES2308600	0.01	0.05	0.08	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.02	<0.05	<0.02	<0.02	0.21	0.21
SW059	13/03/2023	0382_QC101_230313	Field_D	ES2308600	<0.01	0.04	0.06	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.13	0.13
SW059	13/03/2023	0382_QC201_230313	Interlab_D	318769	0.02	0.05	0.07	0.13	<0.02	<0.01	<0.01	<0.02	<0.1	<0.02	<0.5	<0.05	<0.02	<0.05	<0.01	<0.02	<0.02	<0.02	<0.05	<0.01	<0.01	0.04	<0.01	<0.1	<0.01	0.03	<0.5	<0.1	<0.02	0.21	-
SW062	13/03/2023	0382_SW062_230313	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
SW063	14/03/2023	0382_SW063_230314	Normal	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
SW063	14/03/2023	0382_QC103_230314	Field_D	ES2308600	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01
SW063	14/03/2023	0382_QC203_230314	Interlab_D	318769	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.1	<0.02	<0.5	<0.05	<0.02	<0.05	<0.01	<0.02	<0.02	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.02	<0.5	<0.1	<0.02	<0.01	-
SW103	14/03/2023	0382_SW103_230314	Normal	ES2308600	<0.01	0.06	0.1	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.18	0.18
SW104	14/03/2023	0382_SW104_230314	Normal	ES2308600	<0.01	0.03	0.06	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.09	0.09
SW105	14/03/2023	0382_SW105_230314	Normal	ES2308600	<0.01	0.04	0.1	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.14	0.14
SW111	13/03/2023	0382_SW111_230313	Normal	ES2308600	0.01	0.05	0.09	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.18	0.18

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

AECOM

Table T6 - Groundwater Historical Analytical Results

					PFAS																														
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	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	0.002
PFAS NEMP 2020 Drinking Water					0.56			0.07																											
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
Location	Date	Field ID	Sample Type	Project ID																															
MW002	20/02/2018	0382_MW02_180220	Normal	NSW_0382_PFAS	0.35	0.08	*0.16*	0.24	0.02	*<0.01*	*<0.01*	*<0.01*	0.05	0.10	0.14	0.10	0.03	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	0.07	*<0.05*	*<0.05*	*<0.05*	*<0.05*	1.11
MW002	1/10/2020	0382_MW002_201001	Normal	NSW_0382_PFASOMP_20	0.20	0.05	0.04	0.09	0.28	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.08	0.16	0.04	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.85
MW002	1/10/2020	0382_QC102_201001	Field_D	NSW_0382_PFASOMP_20	0.17	0.04	0.03	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.08	0.07	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*	0.43
MW002	26/03/2021	0382_MW002_210326	Normal	NSW_0382_PFASOMP_20	0.05	0.02	0.03	0.05	*<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*	0.03	*<0.05*	*<0.05*	0.03	*<0.05*	0.19
MW002	6/09/2021	0382_MW002_210906	Normal	NSW_0382_PFASOMP_20	0.14	0.03	0.04	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.02	0.04	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*	0.31
MW002	21/03/2022	0382_MW002_220321	Normal	NSW_0382_PFASOMP_20	0.21	0.04	0.12	0.16	0.04	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.05	0.06	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*	0.56
MW002	6/09/2022	0382_MW002_220906	Normal	NSW_0382_PFASOMP_20	0.17	0.04	0.07	0.11	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.05	0.05	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*	0.42
MW002	15/03/2023	0382_MW002_230315	Normal	NSW_0382_PFASOMP_23	0.09	0.02	0.09	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*	0.03	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.25
MW005	21/02/2018	0382_MW05_180221	Normal	NSW_0382_PFAS	0.03	0.11	0.11	0.22	0.01	0.01	*<0.01*	*<0.01*	*<0.05*	0.02	0.04	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	0.34
MW005	21/03/2022	0382_MW005_220321	Normal	NSW_0382_PFASOMP_20	0.01	0.03	0.04	0.07	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.20
MW005	6/09/2022	0382_MW005_220906	Normal	NSW_0382_PFASOMP_20	0.02	0.05	0.11	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*	0.18
MW005	14/03/2023	0382_MW005_230314	Normal	NSW_0382_PFASOMP_23	0.02	0.04	0.06	0.10	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.20
MW112	28/03/2018	0382_MW112_180328	Normal	NSW_0382_PFAS	4.3	58	*64*	122	6.7	12	3.3	*<0.01*	0.99	1.5	9.7	1.7	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	162.2
MW112	1/10/2020	0382_MW112_201001	Normal	NSW_0382_PFASOMP_20	4.75	70.4	*52.8*	123	6.32	10.3	6.01	*<0.02*	1.0	1.87	11.6	1.97	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	167
MW112	3/12/2020	0382_MW112_201203	Normal	NSW_0382_PFASOMP_20	3.03	42.4	*30.0*	72.4	3.86	6.31	2.92	*<0.02*	0.9	1.29	8.16	1.38	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	100
MW112	25/03/2021	0382_MW112_210325	Normal	NSW_0382_PFASOMP_20	3.76	47.4	*25.7*	73.1	5.13	6.30	2.92	*<0.02*	0.9	1.46	8.38	1.58	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	104
MW112	7/06/2021	0382_MW112_210607	Normal	NSW_0382_PFASOMP_20	4.14	49.5	*37.9*	87.4	5.33	8.27	4.27	*<0.02*	0.9	1.53	9.40	1.58	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	123
MW112	7/09/2021	0382_MW112_210907	Normal	NSW_0382_PFASOMP_20	3.12	44.0	*21.2*	65.2	4.61	6.47	3.01	*<0.02*	0.8	1.33	7.88	1.29	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.05	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	93.8
MW112	6/12/2021	0382_MW112_211206	Normal	NSW_0382_PFASOMP_20	2.43	46.8	*34.9*	81.7	5.31	5.51	3.65	*<0.02*	0.9	1.26	9.28	1.32	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	111
MW112	23/03/2022	0382_MW112_220323	Normal	NSW_0382_PFASOMP_20	3.25	48.8	*31.8*	80.6	5.01	6.00	3.21	*<0.02*	0.6	1.14	8.13	1.26	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	109
MW112	15/06/2022	0382_MW112_220615	Normal	NSW_0382_PFASOMP_20	4.72	72.0	*45.6*	118	7.22	8.57	4.30	*<0.05*	1.2	1.77	11.6	2.01	*<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*	159
MW112	5/09/2022	0382_MW112_220905	Normal	NSW_0382_PFASOMP_20	1.56	32.4	*22.0*	54.4	2.02	4.00	4.10	*<0.02*	0.4	0.72	3.61	0.65	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	71.5
MW112	5/12/2022	0382_MW112_221205	Normal	NSW_0382_PFASOMP_20	1.93	36.0	*25.1*	61.1	2.86	4.48	4.35	*<0.02*	0.5	0.82	4.84	0.82	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	81.7
MW112	13/03/2023	0382_MW112_230313	Normal	NSW_0382_PFASOMP_23	2.65	40.4	*27.2*	67.6	3.46	4.96	3.02	*<0.02*	0.7	1.07	5.46	1.03	*<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*	90.0
MW112P	28/03/2018	0382_MW112_P_180328	Normal	NSW_0382_PFAS	0.33	6.0	*50*	56	0.33	1.2	0.34	*<0.01*	0.16	0.30	1.4	0.13	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	60.19
MW112P	1/10/2020	0382_MW112_P_201001	Normal	NSW_0382_PFASOMP_20	0.40	8.10	*37.3*	45.4	0.33	0.64	0.52	*<0.02*	0.2	0.35	1.78	0.16	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	49.8
MW112P	3/12/2020	0382_MW112_P_201203	Normal	NSW_0382_PFASOMP_20	0.22	4.43	*23.2*	27.6	0.20	0.38	0.29	*<0.02*	0.1	0.22	1.09	0.11	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	30.2
MW112P	25/03/2021	0382_MW112_P_210325	Normal	NSW_0382_PFASOMP_20	0.25	4.75	*20.1*	24.8	0.19	0.28	0.24	*<0.02*	0.2	0.24	1.35	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	27.7
MW112P	25/03/2021	0382_QC100_210325	Field_D	NSW_0382_PFASOMP_20	0.25	5.06	*22.5*	27.6	0.21	0.31	0.27	*<0.02*	0.2	0.26	1.45	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	30.6
MW112P	7/06/2021	0382_MW112P_210607	Normal	NSW_0382_PFASOMP_20	0.33	5.56	*28.2*	33.8	0.24	0.40	0.36	*<0.02*	0.2	0.28	1.32	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	37.0
MW112P	7/09/2021	0382_MW112P_210907	Normal	NSW_0382_PFASOMP_20	0.24	4.68	*19.1*	23.8	0.20	0.32	0.29	*<0.02*	0.2	0.23	1.26	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	26.6
MW112P	6/12/2021	0382_MW112P_211206	Normal	NSW_0382_PFASOMP_20	0.19	3.90	*20.8*	24.7	0.18	0.24	0.23	*<0.02*	0.2	0.20	1.17	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	27.2
MW112P	23/03/2022	0382_MW112P_220323	Normal	NSW_0382_PFASOMP_20	0.05	1.67	*7.08*	8.75	0.04	0.08	0.09	*<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*	9.18
MW112P	15/06/2022	0382_MW112P_220615	Normal	NSW_0382_PFASOMP_20	0.26	5.74	*30.6*	36.3	0.22	0.28	0.35	*<0.02*	0.2	0.30	1.31	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	39.4
MW112P	5/09/2022	0382_MW112P_220905	Normal	NSW_0382_PFASOMP_20	0.25	4.36	*24.3*	28.7	0.16	0.30	0.31	*<0.02*	0.2	0.26	1.04	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	31.3
MW112P	5/12/2022	0382_MW112P_221205	Normal	NSW_0382_PFASOMP_20	0.15	3.68	*16.3*	20.0	0.12	0.23	0.16	*<0.02*	*<0.1*	0.12	0.66	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	21.5
MW112P	13/03/2023	0382_MW112P_230313	Normal	NSW_0382_PFASOMP_23	0.18	4.98	*18.7*	23.7	0.16	0.28	0.22	*<0.02*	0.1	0.16	1.04	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	25.9
MW112P	13/03/2023	0382_QC102_230313	Field_D	NSW_0382_PFASOMP_23	0.17	4.48	*17.2*	21.7	0.16	0.30	0.22	*<0.02*	0.1	0.17	0.96	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	23.8
MW112P	13/03/2023	0382_QC202_230313	Interlab_D	NSW_0382_PFASOMP_23	0.19	3.7	*13*	17	0.15	0.23	0.16	*<0.02*	0.1	0.2	0.84	0.07	*<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*	19
MW113	28/03/2018	0382_MW113_180328	Normal	NSW_0382_PFAS	3.7	74	*46*	120	11	13	3.0	*<0.01*	1.2	2.1	13	1.9	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.24	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	169.15
MW113	1/10/2020	0382_MW113_201001	Normal	NSW_0382_PFASOMP_20	15.7	284	*194*	478	36.2	46.6	29.6	0.17	4.4	8.81	53.0	7.59	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.65	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	681
MW113	3/12/2020	0382_MW113_201203	Normal	NSW_0382_PFASOMP_20	11.8	162	*108*	270	27.3	38.9	9.70	0.05	4.2	6.48	38.0	6.05	0.05	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.65	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	413
MW113	3/12/2020	0382_QC100_201203	Field_D	NSW_0382_PFASOMP_20	12.4	165	*122*	287	29.0	40.5	10.6	0.05	4.2	6.40	39.8	6.11	0.05	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.64	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	437
MW113	3/12/2020	0382_QC200_201203	Interlab_D	NSW_0382_PFASOMP_20	8.2	180	*97*	-	22	21	6.2	*<0.01*	3.4	6.1	31	4.2	0.024	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.02*	*<0.01*	0.54	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.01*	*<0.05*	*<0.02*	*<0.01*	*<0.05*	-
MW113	25/03/2021	0382_MW113_210325	Normal	NSW_0382_PFASOMP_20	7.56	89.0	*247*	336	10.4	12.5	5.91	0.54	3.7	9.56	20.8	3.77	0.56	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	5.68	0.10	*<0.05*	0.05	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	417
MW113	7/06/2021	0382_MW113_210607	Normal	NSW_0382_PFASOMP_20	17.8	269	*219*	488	38.4	51.1	26.6	0.16	4.8	10.0	63.0	9.13	0.16	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	1.70	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	711
MW113	7/09/2021	0382_MW113_210907	Normal	NSW_0382_PFASOMP_20	10.0	252	*205*	457	36.0	56.4	22.7	0.07	4.9	8.76	46.4	7.12	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.83	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	650
MW113	6/12/2021	0382_MW113_211206	Normal	NSW_0382_PFASOMP_20	15.2	266	*183*	449	43.0	46.6	20.4	0.08	4.5	9.43	58.9	7.81	0.10	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	1.16	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	656

AECOM

Table T6 - Groundwater Historical Analytical Results

					PFAS																													
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	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	0.002
PFAS NEMP 2020 Drinking Water					0.56			0.07																											
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
Location	Date	Field ID	Sample Type	Project ID																															
MW113	6/12/2021	0382_QC100_211206	Field_D	NSW_0382_PFASOMP_20	14.6	262	*182*	444	39.8	45.1	20.0	0.09	4.7	8.74	58.4	7.42	0.08	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	1.15	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	644
MW113	23/03/2022	0382_MW113_220323	Normal	NSW_0382_PFASOMP_20	10.6	140	*1240*	1380	11.2	14.4	10.3	0.24	4.6	16.5	30.0	4.34	1.13	0.12	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	17.8	0.09	*<0.05*	0.05	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	1500
MW113	15/06/2022	0382_MW113_220615	Normal	NSW_0382_PFASOMP_20	14.9	200	*580*	780	20.3	27.0	17.8	0.32	5.2	16.8	38.7	6.66	1.07	0.08	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	16.6	0.08	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	946
MW113	5/09/2022	0382_MW113_220905	Normal	NSW_0382_PFASOMP_20	14.2	184	*336*	520	21.7	40.9	21.0	0.17	4.2	12.3	34.1	6.24	0.42	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	7.76	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	683
MW113	5/09/2022	0382_QC200_2209	Interlab_D	NSW_0382_PFASOMP_20	13	180	*260*	440	24	24	13	0.06	4.5	9.9	36	6.8	0.29	0.03	*<0.02*	*<0.05*	*<0.1*	*<0.5*	*<0.01*	7.6	0.03	*<0.02*	*<0.1*	*<0.05*	*<0.02*	*<0.05*	*<0.1*	*<0.02*	*<0.5*	580
MW113	5/12/2022	0382_MW113_221205	Normal	NSW_0382_PFASOMP_20	17.2	234	*389*	623	26.5	43.4	21.7	0.10	4.4	13.2	44.9	7.96	0.32	0.03	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	9.22	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	812
MW113	5/12/2022	0382_QC100_221205	Field_D	NSW_0382_PFASOMP_20	19.1	234	*407*	641	29.6	47.7	24.2	0.08	4.2	14.6	48.0	8.18	0.34	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	9.81	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	847
MW113	13/03/2023	0382_MW113_230313	Normal	NSW_0382_PFASOMP_23	24.0	331	*403*	734	49.1	58.2	31.3	0.08	6.7	15.4	69.2	11.4	0.34	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	5.99	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	1000
MW115	28/03/2018	0382_MW115_180328	Normal	NSW_0382_PFAS	13	180	*360*	540	21	30	14	*<0.2*	3.2	5.7	31	5.2	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	663.1
MW115	1/10/2020	0382_MW115_201001	Normal	NSW_0382_PFASOMP_20	16.1	218	*469*	687	20.1	38.4	28.2	*<0.02*	3.9	7.38	41.7	6.53	0.15	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.70	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	850
MW115	3/12/2020	0382_MW115_201203	Normal	NSW_0382_PFASOMP_20	12.0	133	*267*	400	16.0	20.9	13.4	*<0.02*	3.5	4.92	28.4	4.92	0.11	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.57	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	505
MW115	25/03/2021	0382_MW115_210325	Normal	NSW_0382_PFASOMP_20	9.06	113	*160*	273	13.0	16.2	8.63	*<0.02*	3.6	4.30	23.8	3.98	0.11	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.68	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	356
MW115	7/06/2021	0382_MW115_210607	Normal	NSW_0382_PFASOMP_20	14.4	178	*306*	484	17.0	28.1	17.5	*<0.02*	3.6	6.53	32.6	6.07	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.74	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	611
MW115	7/09/2021	0382_MW115_210907	Normal	NSW_0382_PFASOMP_20	8.78	162	*262*	424	17.5	27.6	14.9	*<0.02*	3.5	5.66	31.6	3.94	0.11	*<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*	538
MW115	6/12/2021	0382_MW115_211206	Normal	NSW_0382_PFASOMP_20	10.4	133	*210*	343	15.9	18.2	10.8	*<0.04*	3.2	5.08	32.8	4.61	0.12	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.60	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	445
MW115	23/03/2022	0382_MW115_220323	Normal	NSW_0382_PFASOMP_20	11.2	160	*281*	441	19.4	21.9	14.8	*<0.04*	3.4	5.98	38.2	5.36	0.16	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.87	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	562
MW115	15/06/2022	0382_MW115_220615	Normal	NSW_0382_PFASOMP_20	15.7	203	*358*	561	19.4	30.4	17.7	*<0.05*	3.8	7.03	38.2	6.30	0.16	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.94	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	701
MW115	5/09/2022	0382_MW115_220905	Normal	NSW_0382_PFASOMP_20	12.7	190	*341*	531	14.2	32.1	20.9	*<0.05*	3.2	5.46	24.7	4.79	0.13	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.75	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	650
MW115	5/09/2022	0382_QC100_220905	Field_D	NSW_0382_PFASOMP_20	12.4	194	*336*	530	15.1	26.6	14.5	*<0.05*	3.1	5.72	28.1	5.02	0.14	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.66	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	641
MW117	1/05/2018	0382_MW117_180501	Normal	NSW_0382_PFAS	*<0.01*	0.02	0.06	0.08	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW117	1/05/2018	0382_QC101_180501	Field_D	NSW_0382_PFAS	*<0.01*	0.02	0.06	0.08	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW117	1/05/2018	0382_QC201_180501	Interlab_D	NSW_0382_PFAS	*<0.01*	*<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*	0.04
MW117	26/03/2021	0382_MW117_210326	Normal	NSW_0382_PFASOMP_20	*<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*	0.02
MW117	7/09/2021	0382_MW117_210907	Normal	NSW_0382_PFASOMP_20	*<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*	0.01
MW117	21/03/2022	0382_MW117_220321	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.05	*0.14*	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*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.19
MW117	7/09/2022	0382_MW117_220907	Normal	NSW_0382_PFASOMP_20	0.04	0.48	*1.47*	1.95	*<0.02*	0.03	0.11	*<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*	2.16
MW117	14/03/2023	0382_MW117_230314	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.06	*0.46*	0.52	*<0.02*	*<0.02*	0.03	*<0.02*	*<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*	0.55
MW119	28/03/2018	0382_MW119_180328	Normal	NSW_0382_PFAS	0.08	1.9	*0.62*	2.52	0.42	0.58	0.03	*<0.01*	0.05	0.07	0.44	0.07	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	4.26
MW119	28/03/2018	0382_QC102_180328	Field_D	NSW_0382_PFAS	0.08	2.2	*0.62*	2.82	0.43	0.49	0.04	*<0.01*	0.05	0.07	0.46	0.07	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	4.51
MW119	1/10/2020	0382_MW119_201001	Normal	NSW_0382_PFASOMP_20	0.36	5.17	*18.6*	23.8	0.62	0.62	0.37	*<0.02*	*<0.1*	0.16	0.80	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	26.8
MW119	3/12/2020	0382_MW119_201203	Normal	NSW_0382_PFASOMP_20	0.10	1.04	*2.03*	3.07	0.19	0.19	0.06	*<0.02*	*<0.1*	0.06	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*	3.98
MW119	25/03/2021	0382_MW119_210325	Normal	NSW_0382_PFASOMP_20	0.39	5.78	*24.0*	29.8	0.78	0.56	0.32	*<0.02*	0.4	0.43	1.53	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	34.3
MW119	7/06/2021	0382_MW119_210607	Normal	NSW_0382_PFASOMP_20	0.40	3.59	*8.80*	12.4	0.81	0.55	0.15	*<0.02*	0.4	0.47	1.53	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	16.8
MW119	7/06/2021	0382_QC100_210607	Field_D	NSW_0382_PFASOMP_20	0.40	3.41	*7.53*	10.9	0.78	0.53	0.14	*<0.02*	0.4	0.49	1.47	0.15	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	15.3
MW119	7/09/2021	0382_MW119_210907	Normal	NSW_0382_PFASOMP_20	0.55	6.17	*8.84*	15.0	1.12	1.08	0.31	*<0.02*	0.46	0.59	2.28	0.25	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	21.6
MW119	6/12/2021	0382_MW119_211206	Normal	NSW_0382_PFASOMP_20	0.39	5.36	*7.43*	12.8	1.07	0.89	0.25	*<0.02*	0.4	0.46	2.40	0.21	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	18.9
MW119	23/03/2022	0382_MW119_220323	Normal	NSW_0382_PFASOMP_20	0.55	4.60	*32.8*	37.4	0.84	0.53	0.35	*<0.02*	2.2	1.63	3.00	0.22	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	46.7
MW119	15/06/2022	0382_MW119_220615	Normal	NSW_0382_PFASOMP_20	0.63	6.50	*27.3*	33.8	0.77	0.70	0.42	*<0.02*	1.4	1.31	2.91	0.28	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	42.2
MW119	5/09/2022	0382_MW119_220905	Normal	NSW_0382_PFASOMP_20	0.37	4.62	*21.3*	25.9	0.49	0.67	0.32	*<0.02*	0.9	0.89	2.00	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*	31.8
MW119	5/12/2022	0382_MW119_221205	Normal	NSW_0382_PFASOMP_20	0.47	7.96	*26.2*	34.2	0.80	1.31	0.43	*<0.02*	0.6	0.71	2.17	0.25	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	40.9
MW119	13/03/2023	0382_MW119_230313	Normal	NSW_0382_PFASOMP_23	0.86	13.7	*33.8*	47.5	1.79	2.04	0.64	*<0.02*	0.8	1.04	3.72	0.52	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	58.9
MW119P	28/03/2018	0382_MW119_P_180328	Normal	NSW_0382_PFAS	1.6	16	*30*	46	2.2	3.9	2.0	*<0.01*	0.33	0.48	3.3	0.44	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	60.25
MW119P	1/10/2020	0382_MW119_P_201001	Normal	NSW_0382_PFASOMP_20	1.22	34.8	*4.32*	39.1	4.00	5.55	1.26	*<0.02*	0.7	1.73	10.4	1.15	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	65.1
MW119P	3/12/2020	0382_MW119_P_201203	Normal	NSW_0382_PFASOMP_20	0.40	10.3	*2.65*	13.0	1.53	2.76	0.30	*<0.02*	0.4	0.59	3.16	0.43	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	22.5
MW119P	25/03/2021	0382_MW119_P_210325	Normal	NSW_0382_PFASOMP_20	0.40	10.3	*1.89*	12.2	1.61	1.93	0.27	*<0.02*	0.3	0.51	2.95	0.38	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	20.5
MW119P	7/06/2021	0382_MW119P_210607	Normal	NSW_0382_PFASOMP_20	5.40	114	*51.6*	166	16.3	26.0	6.42	*<0.02*	1.8	6.24	44.4	4.09	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.38	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	277
MW119P	7/09/2021	0382_MW119P_210907	Normal	NSW_0382_PFASOMP_20	6.40	156	*69.5*	226	13.4	23.8	6.64	*<0.02*	1.35	4.32	29.5	4.64	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.42	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	316
MW119P	6/12/2021	0382_MW119P_211206	Normal	NSW_0382_PFASOMP_20	6.06	130	*52.5*	182	9.30	15.4	7.23	*<0.04*	1.0	2.60	22.6	3.18	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.44	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	250

AECOM

Table T6 - Groundwater Historical Analytical Results

						PFAS																												
						Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR						0.002	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	0.002
PFAS NEMP 2020 Drinking Water						0.56			0.07																									
PFAS NEMP 2020 Freshwater 95%						*220*		*0.13*																										
Location	Date	Field ID	Sample Type	Project ID																														
MW119P	23/03/2022	0382_MW119P_220323	Normal	NSW_0382_PFASOMP_20		9.02	176	*156*	332	13.2	18.3	14.3	*<0.04*	1.0	2.48	23.9	3.58	0.05	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.40	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	418
MW119P	15/06/2022	0382_MW119P_220615	Normal	NSW_0382_PFASOMP_20		13.4	257	*200*	457	16.2	33.4	24.0	*<0.05*	1.6	3.54	28.8	5.28	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.32	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	584
MW119P	5/09/2022	0382_MW119P_220905	Normal	NSW_0382_PFASOMP_20		14.6	247	*191*	438	13.7	36.0	31.5	*<0.05*	1.1	2.68	19.0	4.72	0.06	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.24	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	562
MW119P	5/12/2022	0382_MW119P_221205	Normal	NSW_0382_PFASOMP_20		11.6	194	*206*	400	11.5	24.8	20.8	*<0.02*	0.8	2.50	19.9	3.84	0.04	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.20	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	496
MW119P	13/03/2023	0382_MW119P_230313	Normal	NSW_0382_PFASOMP_23		6.16	91.0	*230*	321	5.18	8.72	9.38	*<0.05*	0.9	1.53	10.3	1.92	0.08	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.18	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*	365
MW120	14/03/2018	0382_MW120_180314	Normal	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW120	1/10/2020	0382_MW120_201001	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW120	25/03/2021	0382_MW120_210325	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW120	6/09/2021	0382_MW120_210906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW120	21/03/2022	0382_MW120_220321	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW120	6/09/2022	0382_MW120_220906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW120	14/03/2023	0382_MW120_230314	Normal	NSW_0382_PFASOMP_23		*<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*	*<0.01*
MW121	14/03/2018	0382_MW121_180314	Normal	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW121	14/03/2018	0382_QC101_180314	Field_D	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW121	14/03/2018	0382_QC201_180314	Interlab_D	NSW_0382_PFAS		*<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*	*<0.01*
MW121	1/10/2020	0382_MW121_201001	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW121	1/10/2020	0382_QC202_201001	Interlab_D	NSW_0382_PFASOMP_20		*<0.01*	*<0.01*	*<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*	*<0.01*	*<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*	-
MW121	25/03/2021	0382_MW121_210325	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW121	6/09/2021	0382_MW121_210906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW121	21/03/2022	0382_MW121_220321	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW121	6/09/2022	0382_MW121_220906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW121	14/03/2023	0382_MW121_230314	Normal	NSW_0382_PFASOMP_23		*<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*	*<0.01*
MW122	14/03/2018	0382_MW122_180314	Normal	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW122	1/10/2020	0382_MW122_201001	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW122	26/03/2021	0382_MW122_210326	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW122	6/09/2022	0382_MW122_220906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW122	14/03/2023	0382_MW122_230314	Normal	NSW_0382_PFASOMP_23		*<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*	*<0.01*
MW123	15/03/2018	0382_MW123_180315	Normal	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW123	1/10/2020	0382_MW123_201001	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	24/03/2021	0382_MW123_210324	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	6/09/2021	0382_MW123_210906	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	6/09/2021	0382_QC201_210906	Interlab_D	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	22/03/2022	0382_MW123_220322	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	22/03/2022	0382_QC102_220322	Field_D	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW123	6/09/2022	0382_MW123_220906	Normal	NSW_0382_PFASOMP_20		*<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*	0.02
MW123	15/03/2023	0382_MW123_230315	Normal	NSW_0382_PFASOMP_23		*<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*	*<0.01*
MW124	15/03/2018	0382_MW124_180315	Normal	NSW_0382_PFAS		*<0.01*	0.02	*<0.01*	0.02	*<0.01*	0.01	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW124	1/10/2020	0382_MW124_201001	Normal	NSW_0382_PFASOMP_20		*<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*	0.02
MW124	24/03/2021	0382_MW124_210324	Normal	NSW_0382_PFASOMP_20		*<0.01*	0.02	*<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*	0.06
MW124	6/09/2021	0382_MW124_210906	Normal	NSW_0382_PFASOMP_20		*<0.01*	*<0.02*	*<0.01*	*<0.01*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.10*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.01*
MW124	6/09/2021	0382_QC200_210906	Interlab_D	NSW_0382_PFASOMP_20		*<0.01*	0.01	*<0.01*	0.01	0.03	*<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*	0.05
MW124	22/03/2022	0382_MW124_220322	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW124	7/09/2022	0382_MW124_220907	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW124	15/03/2023	0382_MW124_230315	Normal	NSW_0382_PFASOMP_23		*<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*	0.02
MW129	17/07/2018	0382_MW129_180717	Normal	NSW_0382_PFAS		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW129	1/10/2020	0382_MW129_201001	Normal	NSW_0382_PFASOMP_20		*<0.01*	*<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*	0.04
MW129	3/12/2020	0382_MW129_201203	Normal	NSW_0382_PFASOMP_20		*<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*	*<0.01*
MW129	25/03/2021	0382_MW129_210325	Normal	NSW_0382_PFASOMP_20		*<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*	0.01

AECOM

Table T6 - Groundwater Historical Analytical Results

					PFAS																													
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	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	0.002
PFAS NEMP 2020 Drinking Water					0.56			0.07																										
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																											
Location	Date	Field ID	Sample Type	Project ID																														
MW129	7/06/2021	0382_MW129_210607	Normal	NSW_0382_PFASOMP_20	*<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*	0.01
MW129	7/09/2021	0382_MW129_210907	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	0.04	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.10*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.06
MW129	6/12/2021	0382_MW129_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	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*	0.03
MW129	23/03/2022	0382_MW129_220323	Normal	NSW_0382_PFASOMP_20	*<0.01*	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*	0.03
MW129	15/06/2022	0382_MW129_220615	Normal	NSW_0382_PFASOMP_20	*<0.01*	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*	0.03
MW129	5/09/2022	0382_MW129_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	*<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*	0.13
MW129	5/12/2022	0382_MW129_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.01	0.05	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*	0.06
MW129	13/03/2023	0382_MW129_230313	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.02	0.06	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*	0.08
MW130	17/07/2018	0382_MW130_180717	Normal	NSW_0382_PFAS	*<0.01*	0.02	*<0.01*	0.02	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW130	1/10/2020	0382_MW130_201001	Normal	NSW_0382_PFASOMP_20	*<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*	0.01
MW130	3/12/2020	0382_MW130_201203	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.03	*<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*	0.03
MW130	25/03/2021	0382_MW130_210325	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW130	7/06/2021	0382_MW130_210607	Normal	NSW_0382_PFASOMP_20	*<0.01*	*<0.02*	*<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*	0.03
MW130	7/09/2021	0382_MW130_210907	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	*<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*	0.02
MW130	7/09/2021	0382_QC103_210907	Field_D	NSW_0382_PFASOMP_20	*<0.01*	0.02	*<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*	0.02
MW130	6/12/2021	0382_MW130_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.07	0.11	0.18	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.18
MW130	23/03/2022	0382_MW130_220323	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW130	15/06/2022	0382_MW130_220615	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW130	15/06/2022	0382_QC100_220615	Field_D	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW130	5/09/2022	0382_MW130_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.02	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*	0.06
MW130	5/09/2022	0382_QC101_220905	Field_D	NSW_0382_PFASOMP_20	*<0.01*	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*	0.03
MW130	5/12/2022	0382_MW130_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.10	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.14
MW130	5/12/2022	0382_QC200_221205	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	0.07	*0.16*	0.24	0.02	0.02	*<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*	0.27
MW130	13/03/2023	0382_MW130_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.06	0.05	0.11	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*	0.19
MW131	17/07/2018	0382_MW131_180717	Normal	NSW_0382_PFAS	*<0.01*	0.01	*<0.01*	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW131	1/10/2020	0382_MW131_201001	Normal	NSW_0382_PFASOMP_20	*<0.01*	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*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.11
MW131	3/12/2020	0382_MW131_201203	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW131	25/03/2021	0382_MW131_210325	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW131	7/06/2021	0382_MW131_210607	Normal	NSW_0382_PFASOMP_20	*<0.01*	*<0.02*	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*	0.06
MW131	7/06/2021	0382_QC200_210607	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	*<0.01*	0.078	-	*<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*	-
MW131	7/09/2021	0382_MW131_210907	Normal	NSW_0382_PFASOMP_20	*<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*	0.02
MW131	6/12/2021	0382_MW131_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.01	0.03	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*	0.04
MW131	6/12/2021	0382_QC200_211206	Interlab_D	NSW_0382_PFASOMP_20	*<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*	0.02
MW131	23/03/2022	0382_MW131_220323	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	0.06	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*	0.08
MW131	15/06/2022	0382_MW131_220615	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	0.09	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*	0.11
MW131	5/09/2022	0382_MW131_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	0.05	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*	0.07
MW131	5/09/2022	0382_QC201_2209	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	0.01	0.03	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*	0.05
MW131	5/12/2022	0382_MW131_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.03	0.12	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*	0.15
MW131	13/03/2023	0382_MW131_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.04	*0.19*	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*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.24
MW131	13/03/2023	0382_QC100_230313	Field_D	NSW_0382_PFASOMP_23	*<0.01*	0.03	0.12	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*	0.15
MW131	13/03/2023	0382_QC200_230313	Interlab_D	NSW_0382_PFASOMP_23	*<0.01*	0.03	0.1	0.13	*<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*	0.14
MW133	7/09/2021	0382_MW133_210907	Normal	NSW_0382_PFASOMP_20	0.05	1.58	*4.06*	5.64	0.41	0.12	0.07	*<0.02*	0.6	0.45	1.81	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*	9.19
MW133	6/12/2021	0382_MW133_211206	Normal	NSW_0382_PFASOMP_20	2.88	22.0	*168*	190	1.15	0.97	6.37	*<0.04*	1.0	0.92	4.82	0.36	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*	208
MW133	23/03/2022	0382_MW133_220323	Normal	NSW_0382_PFASOMP_20	0.03	1.84	*2.59*	4.43	0.22	0.26	0.03	*<0.02*	0.1	0.29	0.53	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*	5.92
MW133	15/06/2022	0382_MW133_220615	Normal	NSW_0382_PFASOMP_20	4.80	42.7	*765*	808	2.58	3.78	12.7	*<0.05*	1.6	2.54	10.9	0.84	0.07	*<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*	848
MW133	5/09/2022	0382_MW133_220905	Normal	NSW_0382_PFASOMP_20	3.39	31.3	*530*	561	1.32	2.71	10.7	*<0.05*	1.2	1.40	5.94	0.50	*<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*	588
MW133	5/12/2022	0382_MW133_221205	Normal	NSW_0382_PFASOMP_20	2.69	29.5	*1030*	1060	1.30	3.34	11.1	*<0.02*	0.9	1.44	7.76	0.43	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	1090
MW133	13/03/2023	0382_MW133_230313	Normal	NSW_0382_PFASOMP_23	4.12	33.8	*666*	700	2.05	3.08	17.3	*<0.05*	1.7	2.08	8.92	0.69	0.10	*<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*	740

AECOM

Table T6 - Groundwater Historical Analytical Results

					PFAS																													
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.002	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	0.002
PFAS NEMP 2020 Drinking Water					0.56			0.07																											
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
Location	Date	Field ID	Sample Type	Project ID																															
MW134	25/03/2021	0382_MW134P_210325	Normal	NSW_0382_PFASOMP_20	0.02	0.48	*0.41*	0.89	0.10	0.07	*<0.02*	0.07	0.2	0.16	0.26	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	1.77
MW134	25/03/2021	0382_QC200_210325	Interlab_D	NSW_0382_PFASOMP_20	0.018	0.38	*0.35*	-	0.085	0.062	*<0.01*	*<0.01*	0.17	0.13	0.17	0.011	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.02*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.01*	*<0.05*	*<0.02*	*<0.01*	*<0.05*	-
MW134	7/06/2021	0382_MW134_210607	Normal	NSW_0382_PFASOMP_20	0.03	1.16	*0.44*	1.60	0.23	0.26	0.02	*<0.02*	0.1	0.16	0.42	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	2.82
MW134	15/06/2022	0382_MW134_220615	Normal	NSW_0382_PFASOMP_20	0.02	1.04	*0.52*	1.56	0.31	0.24	*<0.02*	*<0.02*	0.3	0.28	0.56	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	3.29
MW134	5/09/2022	0382_MW134_220905	Normal	NSW_0382_PFASOMP_20	0.02	0.95	*0.36*	1.31	0.22	0.23	*<0.02*	*<0.02*	0.3	0.29	0.55	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	2.92
MW134	5/12/2022	0382_MW134_221205	Normal	NSW_0382_PFASOMP_20	0.02	0.87	*0.29*	1.16	0.20	0.19	0.02	*<0.02*	0.2	0.25	0.52	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	2.56
MW134	13/03/2023	0382_MW134_230313	Normal	NSW_0382_PFASOMP_23	0.02	0.63	*0.32*	0.95	0.16	0.14	*<0.02*	*<0.02*	0.2	0.18	0.43	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	2.08
MW136	18/12/2020	0382_MW136_201218	Normal	NSW_0382_PFAS	*<0.002*	0.016	0.016	0.032	0.008	0.004	*<0.002*	*<0.002*	*<0.01*	*<0.002*	0.003	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.005*	*<0.005*	0.082	*<0.005*	*<0.005*	*<0.002*	*<0.005*	*<0.002*	*<0.005*	*<0.005*	*<0.002*	*<0.005*	0.129
MW136	7/06/2021	0382_MW136_210607	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.11	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*	0.15
MW136	7/09/2021	0382_MW136_210907	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.11	0.04	0.15	0.06	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*	0.29
MW136	6/12/2021	0382_MW136_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.08	0.05	0.13	0.06	0.03	*<0.02*	*<0.02*	*<0.1*	*<0.02*	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.24
MW136	23/03/2022	0382_MW136_220323	Normal	NSW_0382_PFASOMP_20	0.02	0.30	0.03	0.33	0.08	0.06	*<0.02*	*<0.02*	0.1	0.03	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.74
MW136	15/06/2022	0382_MW136_220615	Normal	NSW_0382_PFASOMP_20	0.03	0.64	0.06	0.70	0.18	0.16	*<0.02*	*<0.02*	*<0.1*	0.05	0.21	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	1.33
MW136	15/06/2022	0382_QC200_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.46	0.05	0.51	0.13	0.13	*<0.01*	*<0.02*	0.03	0.03	0.12	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*	0.99
MW136	5/09/2022	0382_MW136_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.32	0.08	0.40	0.07	0.08	*<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*	0.63
MW136	5/12/2022	0382_MW136_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.20	0.11	0.31	0.07	0.06	*<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*	0.50
MW136	13/03/2023	0382_MW136_230313	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.16	0.09	0.25	0.06	0.05	*<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*	0.42
MW301	19/02/2018	0382_MW1_180219	Normal	NSW_0382_PFAS	0.02	0.72	0.10	0.82	0.03	0.04	*<0.01*	*<0.01*	*<0.05*	0.01	0.04	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	0.96
MW301	1/10/2020	0382_MW301_201001	Normal	NSW_0382_PFASOMP_20	0.01	0.09	*0.16*	0.25	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.26
MW301	26/03/2021	0382_MW301_210326	Normal	NSW_0382_PFASOMP_20	0.01	0.06	0.08	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.15
MW301	6/09/2021	0382_MW301_210906	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.06	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*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	0.10
MW301	6/09/2021	0382_QC101_210906	Field_D	NSW_0382_PFASOMP_20	*<0.01*	0.05	0.07	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*	0.12
MW301	21/03/2022	0382_MW301_220321	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.12	0.04	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*	0.16
MW301	6/09/2022	0382_MW301_220906	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.09	0.03	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*	0.12
MW301	14/03/2023	0382_MW301_230314	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.05	0.02	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*	0.07
MW323	16/02/2018	0382_BH345_180216	Normal	NSW_0382_PFAS	*<0.01*	*<0.01*	0.09	0.09	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW323	16/02/2018	0382_QC101_180216	Field_D	NSW_0382_PFAS	*<0.01*	*<0.01*	0.09	0.09	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*
MW323	16/02/2018	0382_QC201_180216	Interlab_D	NSW_0382_PFAS	*<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*	0.02
MW323	1/10/2020	0382_MW323_201001	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	24/03/2021	0382_MW323_210324	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	6/09/2021	0382_MW323_210906	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	22/03/2022	0382_MW323_220322	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	22/03/2022	0382_QC101_220322	Field_D	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	7/09/2022	0382_MW323_220907	Normal	NSW_0382_PFASOMP_20	*<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*	*<0.01*
MW323	15/03/2023	0382_MW323_230315	Normal	NSW_0382_PFASOMP_23	*<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*	*<0.01*
MW330	7/02/2018	0382_BH365_180207	Normal	NSW_0382_PFAS	0.98	44	0.05	44.05	3.4	7.7	0.49	*<0.01*	1.6	3.2	19	1.8	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	82.22
MW330	27/02/2018	0382_BH365_180227	Normal	NSW_0382_PFAS	1.3	40	0.03	40.03	1.7	5.1	0.48	*<0.01*	1.1	1.9	11	1.2	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	63.81
MW330	27/02/2018	0382_QC101_180227	Field_D	NSW_0382_PFAS	1.3	39	0.03	39.03	1.7	4.6	0.47	*<0.01*	1.0	1.9	11	1.2	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	62.2
MW330	27/02/2018	0382_QC201_180227	Interlab_D	NSW_0382_PFAS	1.45	25.8	0.04	25.8	1.11	3.13	0.40	*<0.02*	*<0.1*	1.23	10.0	1.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	44.3
MW330	22/03/2022	0382_MW330_220322	Normal	NSW_0382_PFASOMP_20	3.90	57.9	*3.78*	61.7	2.62	6.27	2.20	*<0.02*	1.1	3.00	20.4	1.56	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	103
MW330	22/03/2022	0382_QC202_220322	Interlab_D	NSW_0382_PFASOMP_20	3.9	63	*4.2*	67	2.1	6.4	2.9	*<0.02*	1.5	2.6	17	1.6	*<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*	110
MW330	5/09/2022	0382_MW330_220905	Normal	NSW_0382_PFASOMP_20	3.24	26.8	*10.3*	37.1	0.71	3.13	2.74	*<0.02*	0.5	1.10	7.30	0.64	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	56.5
MW330	14/03/2023	0382_MW330_230314	Normal	NSW_0382_PFASOMP_23	8.38	106	*23.4*	129	3.50	10.2	5.16	*<0.02*	2.2	4.78	29.3	2.64	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	196

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Table T6 - Groundwater Historical Analytical Results

															PFAS																						
						Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR						0.002	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	0.002
PFAS NEMP 2020 Drinking Water						0.56			0.07																										
PFAS NEMP 2020 Freshwater 95%						*220*		*0.13*																											
Location	Date	Field ID	Sample Type	Project ID																															
MW349	12/02/2018	0382_BH612_180212	Normal	NSW_0382_PFAS		0.01	0.2	0.1	0.3	0.02	0.03	0.02	<0.01	<0.05	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.41
MW349	1/10/2020	0382_MW349_201001	Normal	NSW_0382_PFASOMP_20		0.01	0.28	0.12	0.40	0.03	0.04	<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	0.51
MW349	24/03/2021	0382_MW349_210324	Normal	NSW_0382_PFASOMP_20		<0.01	0.16	0.06	0.22	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	0.27
MW349	6/09/2021	0382_MW349_210906	Normal	NSW_0382_PFASOMP_20		<0.01	0.23	0.10	0.33	0.03	0.04	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.42
MW349	22/03/2022	0382_MW349_220322	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.02	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	0.08
MW349	22/03/2022	0382_QC201_220322	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.06	0.03	0.09	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	0.12
MW349	6/09/2022	0382_MW349_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.31	0.05	0.36	0.06	0.07	<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	0.52
MW349	15/03/2023	0382_MW349_230315	Normal	NSW_0382_PFASOMP_23		0.01	0.32	0.05	0.37	0.06	0.08	<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	0.55

Notes:

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

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Table T7 - Historical Surface Water Analytical Results

					PFAS																												
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																											
PFAS NEMP 2020 Recreational Water					10			2																										
Location Code	Date	Field ID	Sample Type	Project ID																														
SW001	15/03/2018	0382_SW001_180315	Normal	NSW_0382_PFAS	0.86	6.9	*3.9*	10.8	0.36	1.0	0.36	0.04	0.41	0.92	2.7	0.45	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	18.04
SW001	25/03/2021	0382_SW001_210325	Normal	NSW_0382_PFASOMP_20	0.03	0.58	*0.65*	1.23	0.04	0.04	<0.02	<0.02	<0.1	0.09	0.19	<0.02	<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	1.62
SW001	7/06/2021	0382_SW001_210607	Normal	NSW_0382_PFASOMP_20	<0.01	0.06	0.13	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	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19
SW001	7/09/2021	0382_SW001_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.09	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13
SW001	6/12/2021	0382_SW001_211206	Normal	NSW_0382_PFASOMP_20	0.05	0.50	*0.76*	1.26	0.06	0.04	0.02	<0.02	<0.1	0.12	0.22	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	1.80
SW001	6/12/2021	0382_QC101_211206	Field_D	NSW_0382_PFASOMP_20	0.04	0.49	*0.72*	1.21	0.05	0.04	0.02	<0.02	<0.1	0.11	0.22	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	1.72
SW001	23/03/2022	0382_SW001_220323	Normal	NSW_0382_PFASOMP_20	0.02	0.15	*0.27*	0.42	<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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.49
SW001	15/06/2022	0382_SW001_220615	Normal	NSW_0382_PFASOMP_20	0.07	0.67	*2.06*	2.73	0.07	0.06	0.04	<0.02	<0.1	0.09	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	0.13	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.47
SW001	5/09/2022	0382_SW001_220905	Normal	NSW_0382_PFASOMP_20	0.02	0.15	*0.87*	1.02	<0.02	<0.02	<0.02	0.03	<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	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.15
SW001	5/12/2022	0382_SW001_221205	Normal	NSW_0382_PFASOMP_20	0.04	0.35	*1.04*	1.39	0.03	0.04	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	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.80
SW001	15/03/2023	0382_SW001_230315	Normal	NSW_0382_PFASOMP_23	0.01	0.12	*0.26*	0.38	<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	0.45
SW009	26/09/2017	0382_SW009_170926	Normal	NSW_0382_PFAS	<0.01	0.02	0.03	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW009	30/09/2020	0382_SW009_200930	Normal	NSW_0382_PFASOMP_20	0.01	0.25	*0.17*	0.42	0.04	0.04	<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	0.57
SW009	30/09/2020	0382_QC101_200930	Field_D	NSW_0382_PFASOMP_20	0.01	0.28	*0.20*	0.48	0.05	0.05	<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	0.66
SW009	26/03/2021	0382_SW009_210326	Normal	NSW_0382_PFASOMP_20	<0.01	0.12	0.09	0.21	0.02	<0.02	<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	0.25
SW009	6/09/2021	0382_SW009_210906	Normal	NSW_0382_PFASOMP_20	0.01	0.18	0.13	0.31	0.03	0.04	<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	0.44
SW009	22/03/2022	0382_SW009_220322	Normal	NSW_0382_PFASOMP_20	<0.01	0.07	0.09	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	0.16
SW009	22/03/2022	0382_QC103_220322	Field_D	NSW_0382_PFASOMP_20	<0.01	0.07	0.09	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	0.18
SW009	7/09/2022	0382_SW009_220907	Normal	NSW_0382_PFASOMP_20	0.01	0.09	0.09	0.18	<0.02	<0.02	<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	0.21
SW009	13/03/2023	0382_SW009_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.13	*0.19*	0.32	<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	0.36
SW011	27/09/2017	0382_SW011_170927	Normal	NSW_0382_PFAS	<0.01	0.03	0.04	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW011	30/09/2020	0382_SW011_200930	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW011	26/03/2021	0382_SW011_210326	Normal	NSW_0382_PFASOMP_20	<0.01	0.08	0.08	0.16	0.04	<0.02	<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	0.20
SW011	8/09/2021	0382_SW011_210908	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW011	21/03/2022	0382_SW011_220321	Normal	NSW_0382_PFASOMP_20	0.16	3.28	*0.24*	3.52	0.11	0.18	0.03	<0.02	<0.1	0.10	0.60	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	4.77
SW011	6/09/2022	0382_SW011_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.10	0.12	0.22	<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	0.25
SW011	15/03/2023	0382_SW011_230315	Normal	NSW_0382_PFASOMP_23	0.01	0.07	0.07	0.14	<0.02	<0.02	<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	0.17
SW012	27/09/2017	0382_SW012_170927	Normal	NSW_0382_PFAS	<0.01	0.02	0.02	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW012	30/09/2020	0382_SW012_200930	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.03	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	0.07
SW012	6/09/2021	0382_SW012_210906	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.03	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	0.07
SW012	21/03/2022	0382_SW012_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.06	0.06	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	0.12
SW012	6/09/2022	0382_SW012_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.10	0.12	0.22	<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	0.25
SW012	14/03/2023	0382_SW012_230314	Normal	NSW_0382_PFASOMP_23	<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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05
SW014	27/09/2017	0382_SW014_170927	Normal	NSW_0382_PFAS	<0.01	0.02	0.03	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW014	30/09/2020	0382_SW014_200930	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.06	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	0.10
SW014	30/09/2020	0382_QC100_200930	Field_D	NSW_0382_PFASOMP_20	<0.01	0.03	0.04	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	0.07
SW014	26/03/2021	0382_SW014_210326	Normal	NSW_0382_PFASOMP_20	<0.01	<0.02	0.02	0.02	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	0.07
SW014	8/09/2021	0382_SW014_210908	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW014	22/03/2022	0382_SW014_220322	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW014	7/09/2022	0382_SW014_220907	Normal	NSW_0382_PFASOMP_20	<0.01	0.06	0.09	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	0.15
SW014	15/03/2023	0382_SW014_230315	Normal	NSW_0382_PFASOMP_23	<0.01	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	0.04
SW015	26/09/2017	0382_SW015_170926	Normal	NSW_0382_PFAS	0.01	0.08	0.07	-	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-

AECOM

Table T7 - Historical Surface Water Analytical Results

					PFAS																													
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
PFAS NEMP 2020 Recreational Water					10			2																											
Location Code	Date	Field ID	Sample Type	Project ID																															
SW015	30/09/2020	0382_SW015_200930	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW015	25/03/2021	0382_SW015_210325	Normal	NSW_0382_PFASOMP_20	<0.01	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04
SW015	25/03/2021	0382_QC101_210325	Field_D	NSW_0382_PFASOMP_20	<0.01	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06
SW015	8/09/2021	0382_SW015_210908	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW015	22/03/2022	0382_SW015_220322	Normal	NSW_0382_PFASOMP_20	<0.01	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04
SW015	22/03/2022	0382_QC203_220322	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.04	0.03	0.08	<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	0.08
SW015	7/09/2022	0382_SW015_220907	Normal	NSW_0382_PFASOMP_20	<0.01	0.03	0.03	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	0.06
SW015	13/03/2023	0382_SW015_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.08	0.07	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	0.18
SW017	27/09/2017	0382_SW017_170927	Normal	NSW_0382_PFAS	<0.01	0.02	0.03	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW017	30/09/2020	0382_SW017_200930	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.11	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	0.15
SW017	26/03/2021	0382_SW017_210326	Normal	NSW_0382_PFASOMP_20	<0.01	0.02	0.03	0.05	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	0.08
SW017	26/03/2021	0382_QC201_210326	Interlab_D	NSW_0382_PFASOMP_20	<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	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-
SW017	8/09/2021	0382_SW017_210908	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW017	21/03/2022	0382_SW017_220321	Normal	NSW_0382_PFASOMP_20	<0.01	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04
SW017	6/09/2022	0382_SW017_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.04	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	0.08
SW017	14/03/2023	0382_SW017_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.06	0.06	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	0.14
SW025	26/09/2017	0382_SW025_170926	Normal	NSW_0382_PFAS	<0.01	<0.01	0.02	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW025	30/09/2020	0382_SW025_200930	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW025	25/03/2021	0382_SW025_210325	Normal	NSW_0382_PFASOMP_20	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	0.03
SW025	8/09/2021	0382_SW025_210908	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW025	22/03/2022	0382_SW025_220322	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW025	5/09/2022	0382_SW025_220905	Normal	NSW_0382_PFASOMP_20	<0.01	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	0.03
SW025	5/09/2022	0382_QC103_220905	Field_D	NSW_0382_PFASOMP_20	<0.01	0.04	0.03	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	0.07
SW025	13/03/2023	0382_SW025_230313	Normal	NSW_0382_PFASOMP_23	<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	<0.01
SW030	9/03/2018	0382_SW030_180309	Normal	NSW_0382_PFAS	<0.01	0.07	0.03	0.1	0.01	0.01	<0.01	<0.01	<0.05	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16
SW030	30/09/2020	0382_SW030_200930	Normal	NSW_0382_PFASOMP_20	<0.01	0.11	0.03	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14
SW030	24/03/2021	0382_SW030_210324	Normal	NSW_0382_PFASOMP_20	0.04	0.79	*0.78*	1.57	0.10	0.09	0.03	<0.02	<0.1	0.08	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.19
SW030	7/09/2021	0382_SW030_210907	Normal	NSW_0382_PFASOMP_20	0.07	2.66	*1.52*	4.18	0.29	0.40	0.10	<0.02	<0.1	0.04	0.33	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	5.45
SW030	7/09/2021	0382_QC102_210907	Field_D	NSW_0382_PFASOMP_20	0.07	2.72	*1.58*	4.30	0.31	0.40	0.11	<0.02	<0.1	0.03	0.33	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	5.59
SW030	22/03/2022	0382_SW030_220322	Normal	NSW_0382_PFASOMP_20	0.04	0.47	*0.74*	1.21	0.07	0.06	0.02	<0.02	<0.1	0.08	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	1.70
SW030	22/03/2022	0382_QC200_220322	Interlab_D	NSW_0382_PFASOMP_20	0.03	0.58	*0.83*	1.4	0.06	0.07	0.03	<0.02	0.05	0.06	0.20	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	1.9
SW030	15/03/2023	0382_SW030_230315	Normal	NSW_0382_PFASOMP_23	0.02	0.92	*0.80*	1.72	0.10	0.11	0.03	<0.02	<0.1	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.10
SW038	8/03/2018	0382_SW038_180308	Normal	NSW_0382_PFAS	0.01	0.22	*0.32*	0.54	0.02	0.03	<0.01	<0.01	<0.05	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.65
SW038	24/03/2021	0382_SW038_210324	Normal	NSW_0382_PFASOMP_20	0.03	0.53	*0.46*	0.99	0.06	0.05	0.02	<0.02	<0.1	0.12	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	1.42
SW038	6/09/2021	0382_SW038_210906	Normal	NSW_0382_PFASOMP_20	<0.01	0.26	*0.21*	0.47	0.03	0.04	<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	0.58
SW038	6/09/2021	0382_QC100_210906	Field_D	NSW_0382_PFASOMP_20	<0.01	0.25	*0.19*	0.44	0.03	0.04	<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	0.55
SW038	22/03/2022	0382_SW038_220322	Normal	NSW_0382_PFASOMP_20	0.01	0.16	*0.25*	0.41	0.02	0.02	<0.02	<0.02	<0.1	0.03	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	0.53
SW038	22/03/2022	0382_QC100_220322	Field_D	NSW_0382_PFASOMP_20	0.01	0.17	*0.20*	0.37	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	0.45
SW038	7/09/2022	0382_SW038_220907	Normal	NSW_0382_PFASOMP_20	0.02	0.46	*0.44*	0.90	0.05	0.06	<0.02	<0.02	<0.1	0.03	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.16
SW038	15/03/2023	0382_SW038_230315	Normal	NSW_0382_PFASOMP_23	<0.01	0.21	*0.20*	0.41	0.03	0.03	<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	0.51
SW059	1/03/2018	0382_SW059_180301	Normal	NSW_0382_PFAS	0.02	0.06	0.07	0.13	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18
SW059	30/09/2020	0382_SW059_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.07	0.11	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.22
SW059	3/12/2020	0382_SW059_201203	Normal	NSW_0382_PFASOMP_20	0.02	0.05	0.08	0.13	<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	0.18
SW059	25/03/2021	0382_SW059_210325	Normal	NSW_0382_PFASOMP_20	0.01	0.07	0.11	0.18	<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	0.22
SW059	7/06/2021	0382_SW059_210607	Normal	NSW_0382_PFASOMP_20	0.01	0.05	0.09	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15
SW059	7/06/2021	0382_QC101_210607	Field_D	NSW_0382_PFASOMP_20	0.01	0.05	0.09	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15
SW059	7/06/2021	0382_QC201_210607	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.044	0.069	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.019	<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	-

AECOM

Table T7 - Historical Surface Water Analytical Results

					PFAS																												
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																											
PFAS NEMP 2020 Recreational Water					10			2																										
Location Code	Date	Field ID	Sample Type	Project ID																														
SW059	7/09/2021	0382_SW059_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.06	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.10
SW059	7/09/2021	0382_QC203_210907	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.04	0.05	0.09	<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	0.09
SW059	6/12/2021	0382_SW059_211206	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW059	6/12/2021	0382_QC201_211206	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.04	0.07	0.11	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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	0.13
SW059	23/03/2022	0382_SW059_220323	Normal	NSW_0382_PFASOMP_20	0.01	0.06	*0.15*	0.21	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.24
SW059	15/06/2022	0382_SW059_220615	Normal	NSW_0382_PFASOMP_20	0.02	0.16	*0.16*	0.32	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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	0.42
SW059	15/06/2022	0382_QC101_220615	Field_D	NSW_0382_PFASOMP_20	0.02	0.14	0.13	0.27	<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	0.36
SW059	5/09/2022	0382_SW059_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.05	0.06	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	0.14
SW059	5/09/2022	0382_QC102_220905	Field_D	NSW_0382_PFASOMP_20	0.01	0.04	0.06	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11
SW059	5/12/2022	0382_SW059_221205	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.10	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	0.17
SW059	5/12/2022	0382_QC101_221205	Field_D	NSW_0382_PFASOMP_20	<0.01	0.05	0.09	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.16
SW059	13/03/2023	0382_SW059_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.05	0.08	0.13	<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	0.21
SW059	13/03/2023	0382_QC101_230313	Field_D	NSW_0382_PFASOMP_23	<0.01	0.04	0.06	0.10	<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	0.13
SW059	13/03/2023	0382_QC201_230313	Interlab_D	NSW_0382_PFASOMP_23	0.02	0.05	0.07	0.13	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	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	0.21
SW062	5/03/2018	0382_SW062_180305	Normal	NSW_0382_PFAS	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SW062	30/09/2020	0382_SW062_200930	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW062	8/09/2021	0382_SW062_210908	Normal	NSW_0382_PFASOMP_20	<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	0.01
SW062	22/03/2022	0382_SW062_220322	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW062	5/09/2022	0382_SW062_220905	Normal	NSW_0382_PFASOMP_20	<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	0.01
SW062	5/09/2022	0382_QC203_2209	Interlab_D	NSW_0382_PFASOMP_20	<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	<0.01
SW062	13/03/2023	0382_SW062_230313	Normal	NSW_0382_PFASOMP_23	<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	<0.01
SW063	18/04/2018	0382_SW063_180418	Normal	NSW_0382_PFAS	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
SW063	8/09/2021	0382_SW063_210908	Normal	NSW_0382_PFASOMP_20	<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	0.01
SW063	21/03/2022	0382_SW063_220321	Normal	NSW_0382_PFASOMP_20	<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	<0.01
SW063	7/09/2022	0382_SW063_220907	Normal	NSW_0382_PFASOMP_20	<0.01	0.03	0.03	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	0.06
SW063	14/03/2023	0382_SW063_230314	Normal	NSW_0382_PFASOMP_23	<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	<0.01
SW063	14/03/2023	0382_QC103_230314	Field_D	NSW_0382_PFASOMP_23	<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	<0.01
SW063	14/03/2023	0382_QC203_230314	Interlab_D	NSW_0382_PFASOMP_23	<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	<0.01
SW103	15/06/2018	0382_SW103_180615	Normal	NSW_0382_PFAS	<0.05	0.08	*0.21*	0.29	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.31
SW103	15/06/2018	0382_QC102_180615	Field_D	NSW_0382_PFAS	<0.01	0.07	*0.22*	0.29	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.31
SW103	15/06/2018	0382_QC202_180615	Interlab_D	NSW_0382_PFAS	<0.01	0.07	*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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.23
SW103	30/09/2020	0382_SW103_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.03	*0.15*	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.56
SW103	30/09/2020	0382_QC201_200930	Interlab_D	NSW_0382_PFASOMP_20	0.019	0.022	0.1	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	0.11	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-
SW103	24/03/2021	0382_SW103_210324	Normal	NSW_0382_PFASOMP_20	<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	0.03
SW103	7/09/2021	0382_SW103_210907	Normal	NSW_0382_PFASOMP_20	0.01	0.06	*0.15*	0.21	0.05	<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	0.30
SW103	7/09/2021	0382_QC202_210907	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.07	*0.15*	0.21	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	0.03	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	0.04	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5	0.33
SW103	21/03/2022	0382_SW103_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.02	0.04	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	0.06
SW103	5/09/2022	0382_SW103_220905	Normal	NSW_0382_PFASOMP_20	<0.01	0.07	0.08	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	0.15
SW103	14/03/2023	0382_SW103_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.06	0.10	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	0.18
SW104	15/06/2018	0382_SW104_180615	Normal	NSW_0382_PFAS	<0.05	0.07	*0.15*	0.22	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.23
SW104	30/09/2020	0382_SW104_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.02	0.08	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	<0.05	<0.05	<0.05	0.15	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.27
SW104	24/03/2021	0382_SW104_210324	Normal	NSW_0382_PFASOMP_20	<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	0.02
SW104	7/09/2021	0382_SW104_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.03	0.07	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.10
SW104	21/03/2022	0382_SW104_220321	Normal	NSW_0382_PFASOMP_20	<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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05
SW104	5/09/2022	0382_SW104_220905	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.08	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	0.12
SW104	14/03/2023	0382_SW104_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.03	0.06	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.09
SW105	15/06/2018	0382_SW105_180615	Normal	NSW_0382_PFAS	<0.05	0.13	*0.51*	0.64	0.01	<0.01	<0.05	<0.01	<0.05	0.02	0.03	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.7

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Table T7 - Historical Surface Water Analytical Results

					PFAS																													
					Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	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)	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 95%					*220*		*0.13*																												
PFAS NEMP 2020 Recreational Water					10			2																											
Location Code	Date	Field ID	Sample Type	Project ID																															
SW105	30/09/2020	0382_SW105_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.03	0.13	0.16	<0.02	<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	0.23	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.45
SW105	24/03/2021	0382_SW105_210324	Normal	NSW_0382_PFASOMP_20	<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	0.03
SW105	7/09/2021	0382_SW105_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.12	0.16	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.20
SW105	21/03/2022	0382_SW105_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.02	0.05	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	0.07
SW105	5/09/2022	0382_SW105_220905	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.09	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	0.13
SW105	14/03/2023	0382_SW105_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.04	0.10	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14
SW111	30/09/2020	0382_SW111_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.05	0.10	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	0.19
SW111	3/12/2020	0382_SW111_201203	Normal	NSW_0382_PFASOMP_20	0.02	0.05	0.07	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	0.17
SW111	3/12/2020	0382_QC101_201203	Field_D	NSW_0382_PFASOMP_20	0.02	0.05	0.08	0.13	<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	0.18
SW111	3/12/2020	0382_QC201_201203	Interlab_D	NSW_0382_PFASOMP_20	0.018	0.05	0.084	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.022	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	-
SW111	25/03/2021	0382_SW111_210325	Normal	NSW_0382_PFASOMP_20	0.06	1.03	*1.42*	2.45	0.09	0.08	0.04	<0.02	<0.1	0.13	0.35	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	3.23
SW111	7/06/2021	0382_SW111_210607	Normal	NSW_0382_PFASOMP_20	0.07	0.90	*1.93*	2.83	0.06	0.08	0.04	<0.02	<0.1	0.05	0.20	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.41
SW111	7/09/2021	0382_SW111_210907	Normal	NSW_0382_PFASOMP_20	0.04	0.73	*1.01*	1.74	0.05	0.06	0.03	<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	2.18
SW111	6/12/2021	0382_SW111_211206	Normal	NSW_0382_PFASOMP_20	0.01	0.03	0.06	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12
SW111	23/03/2022	0382_SW111_220323	Normal	NSW_0382_PFASOMP_20	0.01	0.03	0.05	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	0.09
SW111	15/06/2022	0382_SW111_220615	Normal	NSW_0382_PFASOMP_20	0.02	0.06	0.08	0.14	<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	0.19
SW111	15/06/2022	0382_QC201_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.05	0.1	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5	0.14
SW111	5/09/2022	0382_SW111_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.03	0.04	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	0.08
SW111	5/09/2022	0382_QC202_2209	Interlab_D	NSW_0382_PFASOMP_20	0.01	0.03	0.04	0.07	<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	0.1
SW111	5/12/2022	0382_SW111_221205	Normal	NSW_0382_PFASOMP_20	<0.01	0.08	*0.16*	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	0.24
SW111	5/12/2022	0382_QC201_221205	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.07	0.12	0.19	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5	0.22
SW111	13/03/2023	0382_SW111_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.05	0.09	0.14	<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	0.18

Notes:

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

Appendix C

Calibration Certificates

Appendix C Calibration Certificates

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 ProQuatro Water Quality Meter w/ 1m Quatro Cable
Serial Number	21C100008
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_6.1
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.	27.0	27.3	27.0	°C
pH	pH 4.00	386466	4.01	3.77	4.01	pH
pH	pH 7.00	387329	7.00	6.94	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2478	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	229.4	237.3	229.4	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-2.6	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	87.7	100.0	%

7Declaration

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	09/03/2023
Calibration Due	09/09/2023

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612562
Project Location:	Holsworthy Barracks	**Client:**	Department of Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	WAM Scientific
Make and Model:	YSI Pro
Serial Number:	21C100608

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/3/23 8:20am				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2760	0.0	
Calibration Reading:	4.00	7.00	2769	0.0	
Calibration Temperature:	23.0	23.1	23.0	23.0	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2760	0.0	
Bump Test Reading:	4.01	7.00	2769	0.03	
Bump Test Temperature:	23.0	23.1	23.0	23.0	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — Fieldwork Staff Signature

13/3/23 — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612562
Project Location:	Holsworthy Barracks	**Client:**	Department of Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	WAM SCIENTIFIC
Make and Model:	YSI PRO PLUS
Serial Number:	21C100008

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/3/23 0815				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:			2525	9	
Calibration Reading:			2519	0.1	
Calibration Temperature:			20.5	20.5	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	14/3/23 0815				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	mg/L ppm	ppm
Calibration Standard Concentration:	4	7	2525	0	
Bump Test Reading:	4.01	7.03	2763	1.29	
Bump Test Temperature:	20.1	20.5	20.5	20.5	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

14/3/23
Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	**Project Number:**	60612562
Project Location:	~~Albatross~~ Holsworthy	**Client:**	Department of Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	WAM SCIENTIFIC
Make and Model:	YSI PRO PLUS
Serial Number:	21C100008

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	15/3/23 8:00am				
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:	15/3/23 0800				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	~~mg/L~~ ppm	ppm
Calibration Standard Concentration:	4	7	2496	0	
Bump Test Reading:	3.99	7.02	2500	0.01	
Bump Test Temperature:	19.8	19.9	20.0	20.0	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☐ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature — Date: 15/3/23

Distribution: Project Central File

Appendix D

Analytical Data Validation

Appendix D Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	[redacted]	Date:	3/04/2023
Client:	Department of Defence	Data verified by:	[redacted]	Date:	4/04/2023
Site:	Holsworthy Barracks	Project Manager:	[redacted]		
Matrix type:	Groundwater and Surface Water				
Primary samples:	23 Groundwater samples and 17 Surface Water samples				
Laboratory:	Primary: ALS Secondary: Envirolab				
Lab reference:	ES2308600 (ALS), 318769 (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, 2022).
Sampling personnel	Sampling was conducted by [redacted] and [redacted] between 13/03/2023 and 15/03/2023. Field personnel were both suitably qualified and experienced AECOM Environmental Scientists and Engineers.
Sampling Methodology	All water samples were collected in accordance with the methodology outlined in the SAQP (AECOM, 2022). While not a deviation from the SAQP, it is noted that two groundwater samples (from MW005 and MW134) were collected with the use of a bailer, as either no HydraSleeve™ was installed or there was insufficient water in the groundwater monitoring well. 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 (for a total of 3 rinsate blank samples 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 a frequency of one in ten primary samples (10%), meeting the DQI. In total, for the 40 primary water samples, four field duplicate samples and four field triplicate samples were collected (10%).
Handling and preservation	All samples were received by the primary laboratory in appropriate containers, with ice present and at 3.8 ˚C, within the recommended temperature range (<6°C). All samples were received by the secondary laboratory in appropriate containers, with ice present and at 6˚C, within the recommended temperature range (<6°C).
Calibration of equipment	Measurements of water quality 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 interface probes, which were 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, 2022).
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 a 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 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.
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 identification of new maximum results for PFOA, PFOS and PFHxS + PFOS at MW330, outside of the historical range, the primary laboratory was requested to repeat the analysis to confirm the reported concentrations. 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.
Rinsate Blank sample results	The concentrations of PFAS in the Rinsate Blank samples (Table D2) were below the LOR, indicating decontamination procedures were adequate.

DATA VALIDATION REPORT	
Intra/Inter-laboratory duplicate 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> 0382_MW131/QC100 - Perfluorooctane sulfonic acid (PFOS): 42% <u>Inter-laboratory duplicates (Field Triplicates) RPDs</u> 0382_MW131/QC200 - Perfluorooctane sulfonic acid (PFOS): 62% 0382_SW059/QC201 - Perfluorooctanoic Acid (PFOA): 67% - Perfluoropentanoic acid (PFPeA): 40% 0382_MW112P/QC202 - Perfluorooctane sulfonic acid (PFOS): 36% - Perfluoroheptane sulfonic acid (PFHpS): 32% The elevated RPDs for the duplicate pairs are likely to be attributable to the variable PFAS concentrations along the water column in the monitoring well or surface water body. Given that the concentrations were generally within the same order of magnitude, AECOM considers that these are not significant to impact the interpretation of results. Where required for quantitative purposes, the highest concentrations from the primary and duplicate pairs were 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 – Rinsate Blank Results

Table D1 - Water Duplicate RPDs

	Lab Report Number	ES2308600	ES2308600		ES2308600	ES2308600		ES2308600	ES2308600		ES2308600	ES2308600	
	Field ID	0382_SW063_230314	0382_QC103_230314	**RPD**	0382_MW112P_230313	0382_QC102_230313	**RPD**	0382_SW059_230313	0382_QC101_230313	**RPD**	0382_MW131_230313	0382_QC100_230313	**RPD**
	Sampled Date	14/03/2023 10:00	14/03/2023 10:00		13/03/2023 11:10	13/03/2023 11:10		13/03/2023 10:00	13/03/2023 10:00		13/03/2023 9:20	13/03/2023 9:20	
Chem_Group	**ChemName**	**Units**	**LOR**										
Per- and Polyfluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	nc	0.18	0.17	6	0.01	<0.01	nc	0.01	<0.01	nc
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	nc	4.98	4.48	11	0.05	0.04	22	0.04	0.03	29
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	nc	18.7	17.2	8	0.08	0.06	29	**0.19**	**0.12**	**45**
	Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	nc	23.7	21.7	9	0.13	0.1	26	**0.23**	**0.15**	**42**
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<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 : 0.1 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<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	<0.02	<0.02	nc	<0.02	<0.02	nc
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05 : 0.5 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	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 (MFOSAA	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
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	0.16	0.16	0	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.02 (Interlab)	<0.1	<0.1	nc	0.1	0.1	0	<0.1	<0.1	nc	<0.1	<0.1	nc
	Perfluorodecanesulfonic 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
	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
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	0.22	0.22	0	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	0.07	0.07	0	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	1.04	0.96	8	0.05	0.03	50	<0.02	<0.02	nc
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.1 (Interlab)	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	nc	0.28	0.3	7	<0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	nc	0.16	0.17	6	0.02	<0.02	nc	<0.02	<0.02	nc
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.5 (Interlab)	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.1 (Interlab)	<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
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	nc	25.4	23.3	9	**0.21**	**0.13**	**47**	**0.24**	**0.15**	**46**
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	nc	25.9	23.8	8	**0.21**	**0.13**	**47**	**0.24**	**0.15**	**46**

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%) are highlighted in bold

Table D1 - Water Duplicate RPDs

	Lab Report Number	ES2308600	318769		ES2308600	318769		ES2308600	318769		ES2308600	318769	
	Field ID	0382_MW131_230313	0382_QC200_230313	**RPD**	0382_SW059_230313	0382_QC201_230313	**RPD**	0382_MW112P_230313	0382_QC202_230313	**RPD**	0382_SW063_230314	0382_QC203_230314	**RPD**
	Sampled Date	13/03/2023 9:20	13/03/2023 9:20		13/03/2023 10:00	13/03/2023 10:00		13/03/2023 11:10	13/03/2023 11:10		14/03/2023 10:00	14/03/2023 10:00	
Chem_Group	**ChemName**	**Units**	**LOR**										
Per- and Polyfluoroalkyl Substances	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.01	<0.01	nc	**0.01**	**0.02**	**67**	0.18	0.19	5	<0.01	<0.01	nc
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.04	0.03	29	0.05	0.05	nc	4.98	3.7	29	<0.01	<0.01	nc
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	**0.19**	**0.1**	**62**	0.08	0.07	13	**18.7**	**13**	**36**	<0.01	<0.01	nc
	Sum of PFHxS and PFOS	µg/L	0.01	**0.23**	**0.13**	**56**	0.13	0.13	0	**23.7**	**17**	**33**	<0.01	<0.01	nc
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	nc	<0.05	<0.02	nc	<0.05	<0.02	nc	<0.05	<0.02	nc
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	nc	<0.05	<0.01	nc	<0.05	<0.01	nc	<0.05	<0.01	nc
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	nc	<0.05	<0.01	nc	<0.05	<0.01	nc	<0.05	<0.01	nc
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	nc	<0.05	<0.02	nc	<0.05	<0.02	nc	<0.05	<0.02	nc
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.1 (Interlab)	<0.05	<0.1	nc	<0.05	<0.1	nc	<0.05	<0.1	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 : 0.5 (Interlab)	<0.05	<0.5	nc	<0.05	<0.5	nc	<0.05	<0.5	nc	<0.05	<0.5	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 (MFOSAA	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
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	nc	<0.02	<0.01	nc	0.16	0.15	6	<0.02	<0.01	nc
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.02 (Interlab)	<0.1	<0.02	nc	<0.1	<0.02	nc	0.1	0.1	0	<0.1	<0.02	nc
	Perfluorodecanesulfonic 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
	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
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.05 (Interlab)	<0.02	<0.05	nc	<0.02	<0.05	nc	<0.02	<0.05	nc	<0.02	<0.05	nc
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	nc	<0.02	<0.01	nc	**0.22**	**0.16**	**32**	<0.02	<0.01	nc
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	nc	<0.02	<0.01	nc	0.07	0.07	nc	<0.02	<0.01	nc
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	0.01	nc	0.05	0.04	22	1.04	0.84	21	<0.02	<0.01	nc
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	nc	<0.02	<0.01	nc	<0.02	<0.01	nc	<0.02	<0.01	nc
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.1 (Interlab)	<0.02	<0.1	nc	<0.02	<0.1	nc	<0.02	<0.1	nc	<0.02	<0.1	nc
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	nc	<0.02	<0.01	nc	0.28	0.23	20	<0.02	<0.01	nc
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	nc	**0.02**	**0.03**	**40**	0.16	0.2	22	<0.02	<0.02	nc
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.5 (Interlab)	<0.05	<0.5	nc	<0.05	<0.5	nc	<0.05	<0.5	nc	<0.05	<0.5	nc
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02 : 0.1 (Interlab)	<0.02	<0.1	nc	<0.02	<0.1	nc	<0.02	<0.1	nc	<0.02	<0.1	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
	Sum of PFAS (WA DER List)	µg/L	0.01	0.24	-	nc	0.21	-	nc	25.4	-	nc	<0.01	-	nc
	Sum of PFAS	µg/L	0.01	**0.24**	**0.14**	**53**	0.21	0.21	0	**25.9**	**19**	**31**	<0.01	<0.01	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%) are highlighted in bold

Table D2 - Rinsate Blank Results

AECOM

Field_ID	0382_QC300_230314	0382_QC301_230313	0382_QC302_230315
Lab_Report_Number	ES2308600	ES2308600	ES2308600
Sample_Type	Rinsate	Rinsate	Rinsate
Sampled_Date_Time	14/03/2023	13/03/2023	15/03/2023

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

Appendix E

Laboratory Certificates

Appendix E Laboratory Certificates

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2308600**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 16-Mar-2023 13:20
Order number	: 60612562_6.1	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: 49129	Issue Date	: 23-Mar-2023 10:36
Sampler	: [redacted]		
Site	: 0382		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 47		
No. of samples analysed	: 47		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	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: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW349_230315	0382_MW330_230314	0382_MW323_230315	0382_MW301_230314	0382_MW136_230313
				Sampling date / time	15-Mar-2023 13:30	14-Mar-2023 08:40	15-Mar-2023 13:00	14-Mar-2023 16:10	13-Mar-2023 09:35
Compound	CAS Number	LOR	Unit		ES2308600-018	ES2308600-019	ES2308600-020	ES2308600-021	ES2308600-022
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.06**	**3.50**	<0.02	<0.02	**0.06**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	**10.2**	<0.02	<0.02	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.32**	**106**	<0.01	**0.05**	**0.16**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**5.16**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	**23.4**	<0.01	**0.02**	**0.09**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**2.2**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**4.78**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.03**	**29.3**	<0.02	<0.02	**0.06**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**2.64**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	**8.38**	<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	0382_MW349_230315	0382_MW330_230314	0382_MW323_230315	0382_MW301_230314	0382_MW136_230313
				Sampling date / time	15-Mar-2023 13:30	14-Mar-2023 08:40	15-Mar-2023 13:00	14-Mar-2023 16:10	13-Mar-2023 09:35
Compound	CAS Number	LOR	Unit		ES2308600-018	ES2308600-019	ES2308600-020	ES2308600-021	ES2308600-022
					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		**0.55**	**196**	<0.01	**0.07**	**0.42**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.37**	**129**	<0.01	**0.07**	**0.25**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.47**	**180**	<0.01	**0.07**	**0.37**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.0**	**98.8**	**96.6**	**102**	**92.2**
13C8-PFOA	----	0.02	%		**101**	**95.4**	**91.8**	**93.3**	**95.0**

Analytical Results

Sub-Matrix: **GROUNDWATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW134_230313	0382_MW133_230313	0382_MW131_230313	0382_MW130_230313	0382_MW129_230313
				Sampling date / time	13-Mar-2023 10:25	13-Mar-2023 09:00	13-Mar-2023 09:20	13-Mar-2023 08:45	13-Mar-2023 09:50
					ES2308600-023	ES2308600-024	ES2308600-025	ES2308600-026	ES2308600-027
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.16**	**2.05**	<0.02	**0.02**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.14**	**3.08**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.63**	**33.8**	**0.04**	**0.06**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**17.3**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.32**	**666**	**0.19**	**0.05**	**0.06**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.2**	**1.7**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.18**	**2.08**	<0.02	**0.02**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.43**	**8.92**	<0.02	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.69**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	**4.12**	**0.01**	**0.01**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.10**	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.12	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.12	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.12	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW134_230313	0382_MW133_230313	0382_MW131_230313	0382_MW130_230313	0382_MW129_230313
				Sampling date / time	13-Mar-2023 10:25	13-Mar-2023 09:00	13-Mar-2023 09:20	13-Mar-2023 08:45	13-Mar-2023 09:50
Compound	CAS Number	LOR	Unit		ES2308600-023	ES2308600-024	ES2308600-025	ES2308600-026	ES2308600-027
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.12	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.12	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.05	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2.08**	**740**	**0.24**	**0.19**	**0.08**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.95**	**700**	**0.23**	**0.11**	**0.08**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.94**	**719**	**0.24**	**0.19**	**0.08**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**102**	**94.7**	**100**	**99.3**
13C8-PFOA	----	0.02	%		**92.6**	**108**	**97.4**	**102**	**99.1**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW124_230315	0382_MW123_230315	0382_MW122_230314	0382_MW121_230314	0382_MW120_230314
				Sampling date / time	15-Mar-2023 13:45	15-Mar-2023 14:05	14-Mar-2023 13:19	14-Mar-2023 11:40	14-Mar-2023 11:55
Compound	CAS Number	LOR	Unit		ES2308600-028	ES2308600-029	ES2308600-030	ES2308600-031	ES2308600-032
					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	0382_MW124_230315	0382_MW123_230315	0382_MW122_230314	0382_MW121_230314	0382_MW120_230314
				Sampling date / time	15-Mar-2023 13:45	15-Mar-2023 14:05	14-Mar-2023 13:19	14-Mar-2023 11:40	14-Mar-2023 11:55
Compound	CAS Number	LOR	Unit		ES2308600-028	ES2308600-029	ES2308600-030	ES2308600-031	ES2308600-032
					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		**0.02**	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.6**	**95.6**	**99.3**	**101**	**99.4**
13C8-PFOA	----	0.02	%		**92.6**	**91.8**	**93.1**	**93.8**	**92.9**

Analytical Results

Sub-Matrix: **GROUNDWATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW119P_230313	0382_MW119_230313	0382_MW117_230314	0382_MW113_230313	0382_MW112P_230313
				Sampling date / time	13-Mar-2023 12:00	13-Mar-2023 11:55	14-Mar-2023 09:45	13-Mar-2023 10:55	13-Mar-2023 11:10
					ES2308600-033	ES2308600-034	ES2308600-035	ES2308600-036	ES2308600-037
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**5.18**	**1.79**	<0.02	**49.1**	**0.16**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**8.72**	**2.04**	<0.02	**58.2**	**0.28**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**91.0**	**13.7**	**0.06**	**331**	**4.98**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**9.38**	**0.64**	**0.03**	**31.3**	**0.22**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**230**	**33.8**	**0.46**	**403**	**18.7**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.05	<0.02	<0.02	**0.08**	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.9**	**0.8**	<0.1	**6.7**	**0.1**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.53**	**1.04**	<0.02	**15.4**	**0.16**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**10.3**	**3.72**	<0.02	**69.2**	**1.04**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.92**	**0.52**	<0.02	**11.4**	**0.07**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**6.16**	**0.86**	<0.01	**24.0**	**0.18**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.08**	<0.02	<0.02	**0.34**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.12	<0.05	<0.05	<0.12	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.12	<0.05	<0.05	<0.12	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.12	<0.05	<0.05	<0.12	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW119P_230313	0382_MW119_230313	0382_MW117_230314	0382_MW113_230313	0382_MW112P_230313
				Sampling date / time	13-Mar-2023 12:00	13-Mar-2023 11:55	14-Mar-2023 09:45	13-Mar-2023 10:55	13-Mar-2023 11:10
Compound	CAS Number	LOR	Unit		ES2308600-033	ES2308600-034	ES2308600-035	ES2308600-036	ES2308600-037
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.12	<0.05	<0.05	<0.12	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.12	<0.05	<0.05	<0.12	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.05	<0.02	<0.02	<0.05	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.18**	<0.05	<0.05	**5.99**	<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		**365**	**58.9**	**0.55**	**1000**	**25.9**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**321**	**47.5**	**0.52**	**734**	**23.7**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**347**	**56.2**	**0.52**	**916**	**25.4**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**97.4**	**96.0**	**110**	**94.0**
13C8-PFOA	----	0.02	%		**107**	**92.9**	**92.9**	**107**	**95.0**

Analytical Results

Sub-Matrix: **GROUNDWATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW112_230313	0382_MW005_230314	0382_MW002_230315	0382_QC102_230313	0382_QC100_230313
				Sampling date / time	13-Mar-2023 11:10	14-Mar-2023 15:00	15-Mar-2023 08:40	13-Mar-2023 11:10	13-Mar-2023 09:20
					ES2308600-038	ES2308600-039	ES2308600-040	ES2308600-045	ES2308600-047
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**3.46**	**0.08**	<0.02	**0.16**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**4.96**	<0.02	<0.02	**0.30**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**40.4**	**0.04**	**0.02**	**4.48**	**0.03**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**3.02**	<0.02	<0.02	**0.22**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**27.2**	**0.06**	**0.09**	**17.2**	**0.12**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.7**	<0.1	<0.1	**0.1**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.07**	<0.02	<0.02	**0.17**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**5.46**	<0.02	**0.02**	**0.96**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.03**	<0.02	<0.02	**0.07**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**2.65**	**0.02**	**0.09**	**0.17**	<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	0382_MW112_230313	0382_MW005_230314	0382_MW002_230315	0382_QC102_230313	0382_QC100_230313
				Sampling date / time	13-Mar-2023 11:10	14-Mar-2023 15:00	15-Mar-2023 08:40	13-Mar-2023 11:10	13-Mar-2023 09:20
Compound	CAS Number	LOR	Unit		ES2308600-038	ES2308600-039	ES2308600-040	ES2308600-045	ES2308600-047
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	**0.03**	<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		**90.0**	**0.20**	**0.25**	**23.8**	**0.15**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**67.6**	**0.10**	**0.11**	**21.7**	**0.15**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**82.0**	**0.20**	**0.22**	**23.3**	**0.15**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.8**	**107**	**98.2**	**101**	**102**
13C8-PFOA	----	0.02	%		**94.2**	**104**	**101**	**102**	**99.9**

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0382_QC302_230315	0382_QC300_230314	0382_QC301_230313	----	----
				Sampling date / time	15-Mar-2023 14:46	14-Mar-2023 12:54	13-Mar-2023 14:40	----	----
Compound	CAS Number	LOR	Unit		ES2308600-041	ES2308600-042	ES2308600-043	--------	--------
					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	0382_QC302_230315	0382_QC300_230314	0382_QC301_230313	----	----
				Sampling date / time	15-Mar-2023 14:46	14-Mar-2023 12:54	13-Mar-2023 14:40	----	----
Compound	CAS Number	LOR	Unit		ES2308600-041	ES2308600-042	ES2308600-043	--------	--------
					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	%		**98.6**	**98.2**	**102**	----	----
13C8-PFOA	----	0.02	%		**102**	**101**	**103**	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW111_230313	0382_SW105_230314	0382_SW104_230314	0382_SW103_230314	0382_SW063_230314
				Sampling date / time	13-Mar-2023 11:45	14-Mar-2023 09:05	14-Mar-2023 09:00	14-Mar-2023 08:50	14-Mar-2023 10:00
Compound	CAS Number	LOR	Unit		ES2308600-001	ES2308600-002	ES2308600-003	ES2308600-004	ES2308600-005
					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		**0.05**	**0.04**	**0.03**	**0.06**	<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		**0.09**	**0.10**	**0.06**	**0.10**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.03**	<0.02	<0.02	**0.02**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW111_230313	0382_SW105_230314	0382_SW104_230314	0382_SW103_230314	0382_SW063_230314
				Sampling date / time	13-Mar-2023 11:45	14-Mar-2023 09:05	14-Mar-2023 09:00	14-Mar-2023 08:50	14-Mar-2023 10:00
Compound	CAS Number	LOR	Unit		ES2308600-001	ES2308600-002	ES2308600-003	ES2308600-004	ES2308600-005
					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		**0.18**	**0.14**	**0.09**	**0.18**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.14**	**0.14**	**0.09**	**0.16**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.18**	**0.14**	**0.09**	**0.18**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**107**	**99.0**	**100**	**93.2**
13C8-PFOA	----	0.02	%		**91.0**	**97.1**	**99.1**	**96.2**	**91.1**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW062_230313	0382_SW059_230313	0382_SW038_230315	0382_SW030_230315	0382_SW025_230313
				Sampling date / time	13-Mar-2023 14:10	13-Mar-2023 10:00	15-Mar-2023 12:40	15-Mar-2023 11:45	13-Mar-2023 13:55
Compound	CAS Number	LOR	Unit		ES2308600-006	ES2308600-007	ES2308600-008	ES2308600-009	ES2308600-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.03**	**0.10**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.03**	**0.11**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.05**	**0.21**	**0.92**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**0.08**	**0.20**	**0.80**	<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	**0.05**	**0.04**	**0.12**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.01**	<0.01	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW062_230313	0382_SW059_230313	0382_SW038_230315	0382_SW030_230315	0382_SW025_230313
				Sampling date / time	13-Mar-2023 14:10	13-Mar-2023 10:00	15-Mar-2023 12:40	15-Mar-2023 11:45	13-Mar-2023 13:55
Compound	CAS Number	LOR	Unit		ES2308600-006	ES2308600-007	ES2308600-008	ES2308600-009	ES2308600-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.21**	**0.51**	**2.10**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.13**	**0.41**	**1.72**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.21**	**0.48**	**1.96**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**103**	**100**	**95.5**	**91.2**
13C8-PFOA	----	0.02	%		**101**	**92.1**	**90.8**	**90.3**	**91.5**

Analytical Results

Sub-Matrix: **SURFACE WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	0382_SW017_230314	0382_SW015_230313	0382_SW014_230315	0382_SW012_230314	0382_SW011_230315
				Sampling date / time	14-Mar-2023 14:45	13-Mar-2023 13:40	15-Mar-2023 09:40	14-Mar-2023 15:20	15-Mar-2023 09:15
					ES2308600-011	ES2308600-012	ES2308600-013	ES2308600-014	ES2308600-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.06**	**0.08**	**0.02**	**0.02**	**0.07**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.06**	**0.07**	**0.02**	**0.03**	**0.07**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.02**	**0.02**	<0.02	<0.02	**0.02**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.01**	<0.01	<0.01	**0.01**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW017_230314	0382_SW015_230313	0382_SW014_230315	0382_SW012_230314	0382_SW011_230315
				Sampling date / time	14-Mar-2023 14:45	13-Mar-2023 13:40	15-Mar-2023 09:40	14-Mar-2023 15:20	15-Mar-2023 09:15
Compound	CAS Number	LOR	Unit		ES2308600-011	ES2308600-012	ES2308600-013	ES2308600-014	ES2308600-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.14**	**0.18**	**0.04**	**0.05**	**0.17**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.12**	**0.15**	**0.04**	**0.05**	**0.14**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.14**	**0.18**	**0.04**	**0.05**	**0.17**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**96.4**	**95.1**	**99.9**	**95.9**
13C8-PFOA	----	0.02	%		**97.4**	**93.8**	**91.9**	**95.5**	**99.9**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW009_230313	0382_SW001_230315	0382_QC103_230314	0382_QC101_230313	----
				Sampling date / time	13-Mar-2023 13:00	15-Mar-2023 14:45	14-Mar-2023 10:00	13-Mar-2023 10:00	----
Compound	CAS Number	LOR	Unit		ES2308600-016	ES2308600-017	ES2308600-044	ES2308600-046	--------
					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		**0.13**	**0.12**	<0.01	**0.04**	----
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		**0.19**	**0.26**	<0.01	**0.06**	----
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		**0.03**	**0.04**	<0.02	**0.03**	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
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	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0382_SW009_230313	0382_SW001_230315	0382_QC103_230314	0382_QC101_230313	----
			Sampling date / time	13-Mar-2023 13:00	15-Mar-2023 14:45	14-Mar-2023 10:00	13-Mar-2023 10:00	----
Compound	CAS Number	LOR	Unit	ES2308600-016	ES2308600-017	ES2308600-044	ES2308600-046	--------
				Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**0.36**	**0.45**	<0.01	**0.13**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.32**	**0.38**	<0.01	**0.10**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.36**	**0.45**	<0.01	**0.13**	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**104**	**96.2**	**97.8**	**101**	----
13C8-PFOA	----	0.02	%	**92.1**	**96.3**	**99.5**	**99.0**	----

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: **RINSATE**		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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2308600**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 16-Mar-2023
Order number	: 60612562_6.1	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: 49129	Issue Date	: 23-Mar-2023
Sampler	: [redacted] [redacted]		
Site	: 0382		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 47		
No. of samples analysed	: 47		

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

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	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: 4937301)									
ES2308600-001	0382_SW111_230313	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.09	0.11	18.3	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2308600-011	0382_SW017_230314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4937302)									
ES2308600-020	0382_MW323_230315	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
ES2308600-030	0382_MW122_230314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4937302) - continued									
ES2308600-030	0382_MW122_230314	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: 4937958)									
ES2308600-039	0382_MW005_230314	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.09	15.4	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4937301)									
ES2308600-001	0382_SW111_230313	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ES2308600-011	0382_SW017_230314	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: 4937302)									
ES2308600-020	0382_MW323_230315	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 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: 4937302) - continued									
ES2308600-020	0382_MW323_230315	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
ES2308600-030	0382_MW122_230314	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: 4937958)									
ES2308600-039	0382_MW005_230314	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (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: 4937301)									
ES2308600-001	0382_SW111_230313	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 (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4937301) - continued									
ES2308600-011	0382_SW017_230314	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: 4937302)									
ES2308600-020	0382_MW323_230315	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
ES2308600-030	0382_MW122_230314	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: 4937958)									

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: 4937958) - continued									
ES2308600-039	0382_MW005_230314	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: 4937301)									
ES2308600-001	0382_SW111_230313	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
ES2308600-011	0382_SW017_230314	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: 4937302)									
ES2308600-020	0382_MW323_230315	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
ES2308600-030	0382_MW122_230314	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: 4937302) - continued									
ES2308600-030	0382_MW122_230314	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: 4937958)									
ES2308600-039	0382_MW005_230314	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: 4937301)									
ES2308600-001	0382_SW111_230313	EP231X: Sum of PFAS	----	0.01	µg/L	0.18	0.20	10.5	0% - 20%
ES2308600-011	0382_SW017_230314	EP231X: Sum of PFAS	----	0.01	µg/L	0.14	0.14	0.0	0% - 50%
EP231P: PFAS Sums (QC Lot: 4937302)									
ES2308600-020	0382_MW323_230315	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2308600-030	0382_MW122_230314	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4937958)									
ES2308600-039	0382_MW005_230314	EP231X: Sum of PFAS	----	0.01	µg/L	0.20	0.21	4.9	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: 4937301)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	83.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	93.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	94.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	97.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	91.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	77.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937302)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	88.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	96.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	91.0	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	98.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	90.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	76.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937958)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	74.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	77.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	72.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	79.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	71.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	64.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937301)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	86.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	94.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	87.4	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937302)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	95.3	73.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937302) - continued								
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937958)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	75.3	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	77.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	82.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	82.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	82.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	72.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	80.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	79.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	82.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	75.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	89.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937301)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.3	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.8	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.7	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	119	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937302)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	102	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	86.1	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: 4937302) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	89.3	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.3	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	124	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937958)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	83.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	116	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	77.6	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	85.8	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	85.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937301)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	82.2	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	95.0	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	88.8	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	85.2	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937302)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	83.0	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	110	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	103	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	72.2	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937958)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	86.8	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	85.8	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	77.8	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	78.2	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**

				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: 4937301)							
ES2308600-002	0382_SW105_230314	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	103	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	101	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	85.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	88.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937302)							
ES2308600-021	0382_MW301_230314	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	86.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	103	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	89.6	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	98.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	93.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	73.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4937958)							
ES2308600-040	0382_MW002_230315	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	80.0	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	87.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	72.2	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	100	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937301)							
ES2308600-002	0382_SW105_230314	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	100	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	117	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	112	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	108	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	121	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	114	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	129	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	112	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	106	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	119	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937302)							
ES2308600-021	0382_MW301_230314	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	105	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: 4937302) - continued							
ES2308600-021	0382_MW301_230314	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	91.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	95.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	103	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	108	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	101	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	116	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4937958)							
ES2308600-040	0382_MW002_230315	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	86.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	75.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	98.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	92.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	90.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	89.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	103	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937301)							
ES2308600-002	0382_SW105_230314	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	134	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	123	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	114	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	122	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	98.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	118	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937302)							
ES2308600-021	0382_MW301_230314	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	118	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.2	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: 4937302) - continued							
ES2308600-021	0382_MW301_230314	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.4	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	111	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	123	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4937958)							
ES2308600-040	0382_MW002_230315	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	85.8	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.9	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	92.6	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.3	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	83.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937301)							
ES2308600-002	0382_SW105_230314	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	94.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	108	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	83.6	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937302)							
ES2308600-021	0382_MW301_230314	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	79.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	105	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	101	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	74.0	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4937958)							
ES2308600-040	0382_MW002_230315	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	88.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	97.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	98.0	71.4	144

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2308600**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 16-Mar-2023
Site	: 0382	Issue Date	: 23-Mar-2023
Sampler	: [redacted]	No. of samples received	: 47
Order number	: 60612562_6.1	No. of samples analysed	: 47

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **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)								
0382_SW111_230313,	0382_SW059_230313,	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**21-Mar-2023**	09-Sep-2023	✓
0382_SW025_230313,	0382_SW015_230313,							
0382_SW009_230313,	0382_MW136_230313,							
0382_MW134_230313,	0382_MW119_230313,							
0382_MW112P_230313,	0382_MW112_230313,							
0382_QC301_230313,	0382_QC102_230313,							
0382_QC101_230313,	0382_QC100_230313							
HDPE (no PTFE) (EP231X)								
0382_SW062_230313,	0382_MW133_230313,	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**22-Mar-2023**	09-Sep-2023	✓
0382_MW131_230313,	0382_MW130_230313,							
0382_MW129_230313,	0382_MW119P_230313,							
0382_MW113_230313								
HDPE (no PTFE) (EP231X)								
0382_SW063_230314,	0382_SW017_230314,	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**21-Mar-2023**	10-Sep-2023	✓
0382_SW012_230314,	0382_MW330_230314,							
0382_MW301_230314,	0382_MW122_230314,							
0382_MW121_230314,	0382_MW120_230314,							
0382_MW117_230314,	0382_MW005_230314,							
0382_QC300_230314,	0382_QC103_230314							
HDPE (no PTFE) (EP231X)								
0382_SW105_230314,	0382_SW104_230314,	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**22-Mar-2023**	10-Sep-2023	✓
0382_SW103_230314								
HDPE (no PTFE) (EP231X)								
0382_SW038_230315,	0382_SW030_230315,	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
0382_SW014_230315,	0382_SW001_230315,							
0382_MW323_230315,	0382_MW124_230315,							
0382_MW123_230315,	0382_MW002_230315,							
0382_QC302_230315								
HDPE (no PTFE) (EP231X)								
0382_SW011_230315,	0382_MW349_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**22-Mar-2023**	11-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
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0382_SW111_230313, 0382_SW059_230313, 0382_SW025_230313, 0382_SW015_230313, 0382_SW009_230313, 0382_MW136_230313, 0382_MW134_230313, 0382_MW119_230313, 0382_MW112P_230313, 0382_MW112_230313, 0382_QC301_230313, 0382_QC102_230313, 0382_QC101_230313, 0382_QC100_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**21-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW062_230313, 0382_MW133_230313, 0382_MW131_230313, 0382_MW130_230313, 0382_MW129_230313, 0382_MW119P_230313, 0382_MW113_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**22-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW063_230314, 0382_SW017_230314, 0382_SW012_230314, 0382_MW330_230314, 0382_MW301_230314, 0382_MW122_230314, 0382_MW121_230314, 0382_MW120_230314, 0382_MW117_230314, 0382_MW005_230314, 0382_QC300_230314, 0382_QC103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**21-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW105_230314, 0382_SW104_230314, 0382_SW103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**22-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW038_230315, 0382_SW030_230315, 0382_SW014_230315, 0382_SW001_230315, 0382_MW323_230315, 0382_MW124_230315, 0382_MW123_230315, 0382_MW002_230315, 0382_QC302_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW011_230315, 0382_MW349_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**22-Mar-2023**	11-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
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0382_SW111_230313, 0382_SW059_230313, 0382_SW025_230313, 0382_SW015_230313, 0382_SW009_230313, 0382_MW136_230313, 0382_MW134_230313, 0382_MW119_230313, 0382_MW112P_230313, 0382_MW112_230313, 0382_QC301_230313, 0382_QC102_230313, 0382_QC101_230313, 0382_QC100_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**21-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X) 0382_SW062_230313, 0382_MW133_230313, 0382_MW131_230313, 0382_MW130_230313, 0382_MW129_230313, 0382_MW119P_230313, 0382_MW113_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**22-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X) 0382_SW063_230314, 0382_SW017_230314, 0382_SW012_230314, 0382_MW330_230314, 0382_MW301_230314, 0382_MW122_230314, 0382_MW121_230314, 0382_MW120_230314, 0382_MW117_230314, 0382_MW005_230314, 0382_QC300_230314, 0382_QC103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**21-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X) 0382_SW105_230314, 0382_SW104_230314, 0382_SW103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**22-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X) 0382_SW038_230315, 0382_SW030_230315, 0382_SW014_230315, 0382_SW001_230315, 0382_MW323_230315, 0382_MW124_230315, 0382_MW123_230315, 0382_MW002_230315, 0382_QC302_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
HDPE (no PTFE) (EP231X) 0382_SW011_230315, 0382_MW349_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**22-Mar-2023**	11-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
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0382_SW111_230313, 0382_SW059_230313, 0382_SW025_230313, 0382_SW015_230313, 0382_SW009_230313, 0382_MW136_230313, 0382_MW134_230313, 0382_MW119_230313, 0382_MW112P_230313, 0382_MW112_230313, 0382_QC301_230313, 0382_QC102_230313, 0382_QC101_230313, 0382_QC100_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**21-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW062_230313, 0382_MW133_230313, 0382_MW131_230313, 0382_MW130_230313, 0382_MW129_230313, 0382_MW119P_230313, 0382_MW113_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**22-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW063_230314, 0382_SW017_230314, 0382_SW012_230314, 0382_MW330_230314, 0382_MW301_230314, 0382_MW122_230314, 0382_MW121_230314, 0382_MW120_230314, 0382_MW117_230314, 0382_MW005_230314, 0382_QC300_230314, 0382_QC103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**21-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW105_230314, 0382_SW104_230314, 0382_SW103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**22-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW038_230315, 0382_SW030_230315, 0382_SW014_230315, 0382_SW001_230315, 0382_MW323_230315, 0382_MW124_230315, 0382_MW123_230315, 0382_MW002_230315, 0382_QC302_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW011_230315, 0382_MW349_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**22-Mar-2023**	11-Sep-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0382_SW111_230313, 0382_SW059_230313, 0382_SW025_230313, 0382_SW015_230313, 0382_SW009_230313, 0382_MW136_230313, 0382_MW134_230313, 0382_MW119_230313, 0382_MW112P_230313, 0382_MW112_230313, 0382_QC301_230313, 0382_QC102_230313, 0382_QC101_230313, 0382_QC100_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**21-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW062_230313, 0382_MW133_230313, 0382_MW131_230313, 0382_MW130_230313, 0382_MW129_230313, 0382_MW119P_230313, 0382_MW113_230313	**13-Mar-2023**	**20-Mar-2023**	09-Sep-2023	✓	**22-Mar-2023**	09-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW063_230314, 0382_SW017_230314, 0382_SW012_230314, 0382_MW330_230314, 0382_MW301_230314, 0382_MW122_230314, 0382_MW121_230314, 0382_MW120_230314, 0382_MW117_230314, 0382_MW005_230314, 0382_QC300_230314, 0382_QC103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**21-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW105_230314, 0382_SW104_230314, 0382_SW103_230314	**14-Mar-2023**	**20-Mar-2023**	10-Sep-2023	✓	**22-Mar-2023**	10-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW038_230315, 0382_SW030_230315, 0382_SW014_230315, 0382_SW001_230315, 0382_MW323_230315, 0382_MW124_230315, 0382_MW123_230315, 0382_MW002_230315, 0382_QC302_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**21-Mar-2023**	11-Sep-2023	✓
HDPE (no PTFE) (EP231X)							
0382_SW011_230315, 0382_MW349_230315	**15-Mar-2023**	**20-Mar-2023**	11-Sep-2023	✓	**22-Mar-2023**	11-Sep-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	47	**10.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	47	**6.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	47	**6.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	47	**6.38**	**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 : **ES2308600**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0382_PFASOMP_23	Page	: 1 of 4
Order number	: 60612562_6.1	Quote number	: ES2021AECOMAU0028 (SY/139/19 v4 60612562_6.1)
C-O-C number	: 49129	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0382		
Sampler	: [redacted]		

Dates

Date Samples Received	: 16-Mar-2023 13:20	Issue Date	: 20-Mar-2023
Client Requested Due Date	: 23-Mar-2023	Scheduled Reporting Date	: **23-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.8'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 47 / 47

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- This is an updated SRN which indicates changes to sample IDs and date/times.
- **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)
ES2308600-001	13-Mar-2023 11:45	0382_SW111_230313	✓
ES2308600-002	14-Mar-2023 09:05	0382_SW105_230314	✓
ES2308600-003	14-Mar-2023 09:00	0382_SW104_230314	✓
ES2308600-004	14-Mar-2023 08:50	0382_SW103_230314	✓
ES2308600-005	14-Mar-2023 10:00	0382_SW063_230314	✓
ES2308600-006	13-Mar-2023 14:10	0382_SW062_230313	✓
ES2308600-007	13-Mar-2023 10:00	0382_SW059_230313	✓
ES2308600-008	15-Mar-2023 12:40	0382_SW038_230315	✓
ES2308600-009	15-Mar-2023 11:45	0382_SW030_230315	✓
ES2308600-010	13-Mar-2023 13:55	0382_SW025_230313	✓
ES2308600-011	14-Mar-2023 14:45	0382_SW017_230314	✓
ES2308600-012	13-Mar-2023 13:40	0382_SW015_230313	✓
ES2308600-013	15-Mar-2023 09:40	0382_SW014_230315	✓
ES2308600-014	14-Mar-2023 15:20	0382_SW012_230314	✓
ES2308600-015	15-Mar-2023 09:15	0382_SW011_230315	✓
ES2308600-016	13-Mar-2023 13:00	0382_SW009_230313	✓
ES2308600-017	15-Mar-2023 14:45	0382_SW001_230315	✓
ES2308600-018	15-Mar-2023 13:30	0382_MW349_230315	✓
ES2308600-019	14-Mar-2023 08:40	0382_MW330_230314	✓
ES2308600-020	15-Mar-2023 13:00	0382_MW323_230315	✓
ES2308600-021	14-Mar-2023 16:10	0382_MW301_230314	✓
ES2308600-022	13-Mar-2023 09:35	0382_MW136_230313	✓
ES2308600-023	13-Mar-2023 10:25	0382_MW134_230313	✓
ES2308600-024	13-Mar-2023 09:00	0382_MW133_230313	✓
ES2308600-025	13-Mar-2023 09:20	0382_MW131_230313	✓
ES2308600-026	13-Mar-2023 08:45	0382_MW130_230313	✓
ES2308600-027	13-Mar-2023 09:50	0382_MW129_230313	✓
ES2308600-028	15-Mar-2023 13:45	0382_MW124_230315	✓
ES2308600-029	15-Mar-2023 14:05	0382_MW123_230315	✓
ES2308600-030	14-Mar-2023 13:19	0382_MW122_230314	✓
ES2308600-031	14-Mar-2023 11:40	0382_MW121_230314	✓
ES2308600-032	14-Mar-2023 11:55	0382_MW120_230314	✓
ES2308600-033	13-Mar-2023 12:00	0382_MW119P_230313	✓
ES2308600-034	13-Mar-2023 11:55	0382_MW119_230313	✓
ES2308600-035	14-Mar-2023 09:45	0382_MW117_230314	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
ES2308600-036	13-Mar-2023 10:55	0382_MW113_230313	✓
ES2308600-037	13-Mar-2023 11:10	0382_MW112P_230313	✓
ES2308600-038	13-Mar-2023 11:10	0382_MW112_230313	✓
ES2308600-039	14-Mar-2023 15:00	0382_MW005_230314	✓
ES2308600-040	15-Mar-2023 08:40	0382_MW002_230315	✓
ES2308600-041	15-Mar-2023 14:46	0382_QC302_230315	✓
ES2308600-042	14-Mar-2023 12:54	0382_QC300_230314	✓
ES2308600-043	13-Mar-2023 14:40	0382_QC301_230313	✓
ES2308600-044	14-Mar-2023 10:00	0382_QC103_230314	✓
ES2308600-045	13-Mar-2023 11:10	0382_QC102_230313	✓
ES2308600-046	13-Mar-2023 10:00	0382_QC101_230313	✓
ES2308600-047	13-Mar-2023 09:20	0382_QC100_230313	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ[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]
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	[redacted]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@esdat.com.au
[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]
- 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]
- A4 - AU Tax Invoice (INV)	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]

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: FAZ 16/3/23 1:20pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_SW111_230313		13/03/2023 11:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
002	0382_SW105_230314		15/03/2023 09:05 AM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0382_SW104_230314		14/03/2023 09:00 AM	WATER	ALS: 4 Non ALS: 0	No	X		
004	0382_SW103_230314		14/03/2023 08:50 AM	WATER	ALS: 4 Non ALS: 0	No	X		
005	0382_SW063_230314		14/03/2023 10:00 AM	WATER	ALS: 4 Non ALS: 0	No	X		
006	0382_SW062_230313		13/03/2023 02:10 PM	WATER	ALS: 4 Non ALS: 0	No	X		
007	0382_SW059_230313		13/03/2023 10:00 AM	WATER	ALS: 4 Non ALS: 0	No	X		
008	0382_SW038_230315		15/03/2023 12:20 PM	WATER	ALS: 4 Non ALS: 0	No	X		
009	0382_SW030_230315		15/03/2023 11:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		

Environmental Division
Sydney
Work Order Reference
ES2308600

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:2pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
010	0382_SW025_230313		13/03/2023 01:55 PM	WATER	ALS: 4 Non ALS: 0	No	X		
011	0382_SW017_230314		14/03/2023 02:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		
012	0382_SW015_230313		13/03/2023 12:20 PM	WATER	ALS: 4 Non ALS: 0	No	X		
013	0382_SW014_230315		15/03/2023 11:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
014	0382_SW012_230314		14/03/2023 03:20 PM	WATER	ALS: 4 Non ALS: 0	No	X		
015	0382_SW011_230315		16/03/2023 09:15 AM	WATER	ALS: 4 Non ALS: 0	No	X		
016	0382_SW009_230313		13/03/2023 01:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
017	0382_SW001_230315		15/03/2023 02:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		
018	0382_MW349_230315		15/03/2023 01:30 PM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:20p	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0382_MW330_230314		14/03/2023 08:40 AM	WATER	ALS: 4 Non ALS: 0	No	X		
020	0382_MW323_230315		15/03/2023 01:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
021	0382_MW301_230314		14/03/2023 04:10 PM	WATER	ALS: 4 Non ALS: 0	No	X		
022	0382_MW136_230313		14/03/2023 09:35 AM	WATER	ALS: 4 Non ALS: 0	No	X		
023	0382_MW134_230313		13/03/2023 10:25 AM	WATER	ALS: 4 Non ALS: 0	No	X		
024	0382_MW133_230313		13/03/2023 09:00 AM	WATER	ALS: 4 Non ALS: 0	No	X		
025	0382_MW131_230313		13/03/2023 09:20 AM	WATER	ALS: 4 Non ALS: 0	No	X		
026	0382_MW130_230313		13/03/2023 08:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
027	0382_MW129_230313		13/03/2023 09:50 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:2[illegible]	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
028	0382_MW124_230315		15/03/2023 01:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		
029	0382_MW123_230315		15/03/2023 02:05 PM	WATER	ALS: 4 Non ALS: 0	No	X		
030	0382_MW122_230314		14/03/2023 01:19 PM	WATER	ALS: 4 Non ALS: 0	No	X		
031	0382_MW121_230314		13/03/2023 11:40 AM	WATER	ALS: 4 Non ALS: 0	No	X		
032	0382_MW120_230314		14/03/2023 11:55 AM	WATER	ALS: 4 Non ALS: 0	No	X		
033	0382_MW119P_230313		13/03/2023 12:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
034	0382_MW119_230313		13/03/2023 11:55 AM	WATER	ALS: 4 Non ALS: 0	No	X		
035	0382_MW117_230314		14/03/2023 09:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
036	0382_MW113_230313		13/03/2023 10:55 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
037	0382_MW112P_230313		13/03/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No	X		
038	0382_MW112_230313		13/03/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No	X		
039	0382_MW005_230314		14/03/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
040	0382_MW002_230315		15/03/2023 08:40 AM	WATER	ALS: 4 Non ALS: 0	No	X		
041	0026_QC302_230315		15/03/2023 02:46 PM	WATER	ALS: 4 Non ALS: 0	No	X		
042	0026_QC301_230314		14/03/2023 12:54 PM	WATER	ALS: 4 Non ALS: 0	No	X		
043	0026_QC300_230313		13/03/2023 02:40 PM	WATER	ALS: 4 Non ALS: 0	No	X		
044	0382_QC103_230314		14/03/2023 10:30 AM	WATER	ALS: 4 Non ALS: 0	No	X		
045	0382_QC102_230313		13/03/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
046	0382_QC101_230313		13/03/2023 09:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
047	0382_QC100_230313		13/03/2023 09:12 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0382_SW111_230313	HDPE (no PTFE)	20 mL	00350822039589	Grey	No	
001	0382_SW111_230313	HDPE (no PTFE)	20 mL	00350822039301	Grey	No	
001	0382_SW111_230313	HDPE (no PTFE)	20 mL	00350822039575	Grey	No	
001	0382_SW111_230313	HDPE (no PTFE)	20 mL	00350822039151	Grey	No	
002	0382_SW105_230314	HDPE (no PTFE)	20 mL	00350822039239	Grey	No	
002	0382_SW105_230314	HDPE (no PTFE)	20 mL	00350822039138	Grey	No	
002	0382_SW105_230314	HDPE (no PTFE)	20 mL	00350822039557	Grey	No	
002	0382_SW105_230314	HDPE (no PTFE)	20 mL	00350822039054	Grey	No	
003	0382_SW104_230314	HDPE (no PTFE)	20 mL	00350822039448	Grey	No	
003	0382_SW104_230314	HDPE (no PTFE)	20 mL	00350822039176	Grey	No	
003	0382_SW104_230314	HDPE (no PTFE)	20 mL	00350822039172	Grey	No	
003	0382_SW104_230314	HDPE (no PTFE)	20 mL	00350822039269	Grey	No	
004	0382_SW103_230314	HDPE (no PTFE)	20 mL	00350822039117	Grey	No	
004	0382_SW103_230314	HDPE (no PTFE)	20 mL	00350822039265	Grey	No	
004	0382_SW103_230314	HDPE (no PTFE)	20 mL	00350822039456	Grey	No	
004	0382_SW103_230314	HDPE (no PTFE)	20 mL	00350822039493	Grey	No	
005	0382_SW063_230314	HDPE (no PTFE)	20 mL	00350822039455	Grey	No	
005	0382_SW063_230314	HDPE (no PTFE)	20 mL	00350822039643	Grey	No	
005	0382_SW063_230314	HDPE (no PTFE)	20 mL	00350822039535	Grey	No	
005	0382_SW063_230314	HDPE (no PTFE)	20 mL	00350822039352	Grey	No	
006	0382_SW062_230313	HDPE (no PTFE)	20 mL	00350822039337	Grey	No	
006	0382_SW062_230313	HDPE (no PTFE)	20 mL	00350822039612	Grey	No	
006	0382_SW062_230313	HDPE (no PTFE)	20 mL	00350822039134	Grey	No	
006	0382_SW062_230313	HDPE (no PTFE)	20 mL	00350822039325	Grey	No	
007	0382_SW059_230313	HDPE (no PTFE)	20 mL	00350822039364	Grey	No	
007	0382_SW059_230313	HDPE (no PTFE)	20 mL	00350822039261	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:20pm	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

007	0382_SW059_230313	HDPE (no PTFE)	20 mL	00350822039241	Grey	No	
007	0382_SW059_230313	HDPE (no PTFE)	20 mL	00350822039242	Grey	No	
008	0382_SW038_230315	HDPE (no PTFE)	20 mL	00350822039071	Grey	No	
008	0382_SW038_230315	HDPE (no PTFE)	20 mL	00350822039219	Grey	No	
008	0382_SW038_230315	HDPE (no PTFE)	20 mL	00350822039605	Grey	No	
008	0382_SW038_230315	HDPE (no PTFE)	20 mL	00350822039212	Grey	No	
009	0382_SW030_230315	HDPE (no PTFE)	20 mL	00350822039123	Grey	No	
009	0382_SW030_230315	HDPE (no PTFE)	20 mL	00350822039610	Grey	No	
009	0382_SW030_230315	HDPE (no PTFE)	20 mL	00350822039644	Grey	No	
009	0382_SW030_230315	HDPE (no PTFE)	20 mL	00350822039339	Grey	No	
010	0382_SW025_230313	HDPE (no PTFE)	20 mL	00350822039483	Grey	No	
010	0382_SW025_230313	HDPE (no PTFE)	20 mL	00350822039545	Grey	No	
010	0382_SW025_230313	HDPE (no PTFE)	20 mL	00350822039233	Grey	No	
010	0382_SW025_230313	HDPE (no PTFE)	20 mL	00350822039618	Grey	No	
011	0382_SW017_230314	HDPE (no PTFE)	20 mL	00350822039188	Grey	No	
011	0382_SW017_230314	HDPE (no PTFE)	20 mL	00350822039533	Grey	No	
011	0382_SW017_230314	HDPE (no PTFE)	20 mL	00350822039235	Grey	No	
011	0382_SW017_230314	HDPE (no PTFE)	20 mL	00350822039255	Grey	No	
012	0382_SW015_230313	HDPE (no PTFE)	20 mL	00350822039496	Grey	No	
012	0382_SW015_230313	HDPE (no PTFE)	20 mL	00350822039394	Grey	No	
012	0382_SW015_230313	HDPE (no PTFE)	20 mL	00350822039240	Grey	No	
012	0382_SW015_230313	HDPE (no PTFE)	20 mL	00350822039152	Grey	No	
013	0382_SW014_230315	HDPE (no PTFE)	20 mL	00350822039433	Grey	No	
013	0382_SW014_230315	HDPE (no PTFE)	20 mL	00350822039316	Grey	No	
013	0382_SW014_230315	HDPE (no PTFE)	20 mL	00350822039067	Grey	No	
013	0382_SW014_230315	HDPE (no PTFE)	20 mL	00350822039495	Grey	No	
014	0382_SW012_230314	HDPE (no PTFE)	20 mL	00350822039425	Grey	No	

CHAIN OF CUSTODY

COC#: 49129 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	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:

014	0382_SW012_230314	HDPE (no PTFE)	20 mL	00350822039355	Grey	No	
014	0382_SW012_230314	HDPE (no PTFE)	20 mL	00350822039585	Grey	No	
014	0382_SW012_230314	HDPE (no PTFE)	20 mL	00350822039635	Grey	No	
015	0382_SW011_230315	HDPE (no PTFE)	20 mL	00350822039131	Grey	No	
015	0382_SW011_230315	HDPE (no PTFE)	20 mL	00350822039179	Grey	No	
015	0382_SW011_230315	HDPE (no PTFE)	20 mL	00350822039297	Grey	No	
015	0382_SW011_230315	HDPE (no PTFE)	20 mL	00350822039309	Grey	No	
016	0382_SW009_230313	HDPE (no PTFE)	20 mL	00350822039344	Grey	No	
016	0382_SW009_230313	HDPE (no PTFE)	20 mL	00350822039300	Grey	No	
016	0382_SW009_230313	HDPE (no PTFE)	20 mL	00350822039137	Grey	No	
016	0382_SW009_230313	HDPE (no PTFE)	20 mL	00350822039184	Grey	No	
017	0382_SW001_230315	HDPE (no PTFE)	20 mL	00350822039307	Grey	No	
017	0382_SW001_230315	HDPE (no PTFE)	20 mL	00350822039170	Grey	No	
017	0382_SW001_230315	HDPE (no PTFE)	20 mL	00350822039554	Grey	No	
017	0382_SW001_230315	HDPE (no PTFE)	20 mL	00350822039524	Grey	No	
018	0382_MW349_230315	HDPE (no PTFE)	20 mL	00350822039499	Grey	No	
018	0382_MW349_230315	HDPE (no PTFE)	20 mL	00350822039451	Grey	No	
018	0382_MW349_230315	HDPE (no PTFE)	20 mL	00350822039571	Grey	No	
018	0382_MW349_230315	HDPE (no PTFE)	20 mL	00350822039108	Grey	No	
019	0382_MW330_230314	HDPE (no PTFE)	20 mL	00350822039227	Grey	No	
019	0382_MW330_230314	HDPE (no PTFE)	20 mL	00350822039198	Grey	No	
019	0382_MW330_230314	HDPE (no PTFE)	20 mL	00350822039246	Grey	No	
019	0382_MW330_230314	HDPE (no PTFE)	20 mL	00350822039536	Grey	No	
020	0382_MW323_230315	HDPE (no PTFE)	20 mL	00350822039512	Grey	No	
020	0382_MW323_230315	HDPE (no PTFE)	20 mL	00350822039226	Grey	No	
020	0382_MW323_230315	HDPE (no PTFE)	20 mL	00350822039195	Grey	No	
020	0382_MW323_230315	HDPE (no PTFE)	20 mL	00350822039409	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	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:

021	0382_MW301_230314	HDPE (no PTFE)	20 mL	00350822039271	Grey	No	
021	0382_MW301_230314	HDPE (no PTFE)	20 mL	00350822039397	Grey	No	
021	0382_MW301_230314	HDPE (no PTFE)	20 mL	00350822039623	Grey	No	
021	0382_MW301_230314	HDPE (no PTFE)	20 mL	00350822039313	Grey	No	
022	0382_MW136_230313	HDPE (no PTFE)	20 mL	00350822039190	Grey	No	
022	0382_MW136_230313	HDPE (no PTFE)	20 mL	00350822039222	Grey	No	
022	0382_MW136_230313	HDPE (no PTFE)	20 mL	00350822039597	Grey	No	
022	0382_MW136_230313	HDPE (no PTFE)	20 mL	00350822039596	Grey	No	
023	0382_MW134_230313	HDPE (no PTFE)	20 mL	00350822039259	Grey	No	
023	0382_MW134_230313	HDPE (no PTFE)	20 mL	00350822039460	Grey	No	
023	0382_MW134_230313	HDPE (no PTFE)	20 mL	00350822039402	Grey	No	
023	0382_MW134_230313	HDPE (no PTFE)	20 mL	00350822039356	Grey	No	
024	0382_MW133_230313	HDPE (no PTFE)	20 mL	00350822039148	Grey	No	
024	0382_MW133_230313	HDPE (no PTFE)	20 mL	00350822039592	Grey	No	
024	0382_MW133_230313	HDPE (no PTFE)	20 mL	00350822039506	Grey	No	
024	0382_MW133_230313	HDPE (no PTFE)	20 mL	00350822039434	Grey	No	
025	0382_MW131_230313	HDPE (no PTFE)	20 mL	00350822039593	Grey	No	
025	0382_MW131_230313	HDPE (no PTFE)	20 mL	00350822039118	Grey	No	
025	0382_MW131_230313	HDPE (no PTFE)	20 mL	00350822039252	Grey	No	
025	0382_MW131_230313	HDPE (no PTFE)	20 mL	00350822039210	Grey	No	
026	0382_MW130_230313	HDPE (no PTFE)	20 mL	00350822039254	Grey	No	
026	0382_MW130_230313	HDPE (no PTFE)	20 mL	00350822039187	Grey	No	
026	0382_MW130_230313	HDPE (no PTFE)	20 mL	00350822039049	Grey	No	
026	0382_MW130_230313	HDPE (no PTFE)	20 mL	00350822039461	Grey	No	
027	0382_MW129_230313	HDPE (no PTFE)	20 mL	00350822039196	Grey	No	
027	0382_MW129_230313	HDPE (no PTFE)	20 mL	00350822039383	Grey	No	
027	0382_MW129_230313	HDPE (no PTFE)	20 mL	00350822039348	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 49129 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:24	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

027	0382_MW129_230313	HDPE (no PTFE)	20 mL	00350822039237	Grey	No	
028	0382_MW124_230315	HDPE (no PTFE)	20 mL	00350822039400	Grey	No	
028	0382_MW124_230315	HDPE (no PTFE)	20 mL	00350822039145	Grey	No	
028	0382_MW124_230315	HDPE (no PTFE)	20 mL	00350822039518	Grey	No	
028	0382_MW124_230315	HDPE (no PTFE)	20 mL	00350822039142	Grey	No	
029	0382_MW123_230315	HDPE (no PTFE)	20 mL	00350822039465	Grey	No	
029	0382_MW123_230315	HDPE (no PTFE)	20 mL	00350822039321	Grey	No	
029	0382_MW123_230315	HDPE (no PTFE)	20 mL	00350822039424	Grey	No	
029	0382_MW123_230315	HDPE (no PTFE)	20 mL	00350822039577	Grey	No	
030	0382_MW122_230314	HDPE (no PTFE)	20 mL	00350822039367	Grey	No	
030	0382_MW122_230314	HDPE (no PTFE)	20 mL	00350822039463	Grey	No	
030	0382_MW122_230314	HDPE (no PTFE)	20 mL	00350822039168	Grey	No	
030	0382_MW122_230314	HDPE (no PTFE)	20 mL	00350822039140	Grey	No	
031	0382_MW121_230314	HDPE (no PTFE)	20 mL	00350822039381	Grey	No	
031	0382_MW121_230314	HDPE (no PTFE)	20 mL	00350822039263	Grey	No	
031	0382_MW121_230314	HDPE (no PTFE)	20 mL	00350822039508	Grey	No	
031	0382_MW121_230314	HDPE (no PTFE)	20 mL	00350822039092	Grey	No	
032	0382_MW120_230314	HDPE (no PTFE)	20 mL	00350822039544	Grey	No	
032	0382_MW120_230314	HDPE (no PTFE)	20 mL	00350822039120	Grey	No	
032	0382_MW120_230314	HDPE (no PTFE)	20 mL	00350822039273	Grey	No	
032	0382_MW120_230314	HDPE (no PTFE)	20 mL	00350822039417	Grey	No	
033	0382_MW119P_230313	HDPE (no PTFE)	20 mL	00350822039546	Grey	No	
033	0382_MW119P_230313	HDPE (no PTFE)	20 mL	00350822039392	Grey	No	
033	0382_MW119P_230313	HDPE (no PTFE)	20 mL	00350822039462	Grey	No	
033	0382_MW119P_230313	HDPE (no PTFE)	20 mL	00350822039289	Grey	No	
034	0382_MW119_230313	HDPE (no PTFE)	20 mL	00350822039287	Grey	No	
034	0382_MW119_230313	HDPE (no PTFE)	20 mL	00350822039479	Grey	No	

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:2[illegible]	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

034	0382_MW119_230313	HDPE (no PTFE)	20 mL	00350822039202	Grey	No	
034	0382_MW119_230313	HDPE (no PTFE)	20 mL	00350822039420	Grey	No	
035	0382_MW117_230314	HDPE (no PTFE)	20 mL	00350822039354	Grey	No	
035	0382_MW117_230314	HDPE (no PTFE)	20 mL	00350822039089	Grey	No	
035	0382_MW117_230314	HDPE (no PTFE)	20 mL	00350822039468	Grey	No	
035	0382_MW117_230314	HDPE (no PTFE)	20 mL	00350822039115	Grey	No	
036	0382_MW113_230313	HDPE (no PTFE)	20 mL	00350822039223	Grey	No	
036	0382_MW113_230313	HDPE (no PTFE)	20 mL	00350822039469	Grey	No	
036	0382_MW113_230313	HDPE (no PTFE)	20 mL	00350822039135	Grey	No	
036	0382_MW113_230313	HDPE (no PTFE)	20 mL	00350822039312	Grey	No	
037	0382_MW112P_230313	HDPE (no PTFE)	20 mL	00350822039068	Grey	No	
037	0382_MW112P_230313	HDPE (no PTFE)	20 mL	00350822039169	Grey	No	
037	0382_MW112P_230313	HDPE (no PTFE)	20 mL	00350822039216	Grey	No	
037	0382_MW112P_230313	HDPE (no PTFE)	20 mL	00350822039217	Grey	No	
038	0382_MW112_230313	HDPE (no PTFE)	20 mL	00350822039399	Grey	No	
038	0382_MW112_230313	HDPE (no PTFE)	20 mL	00350822039565	Grey	No	
038	0382_MW112_230313	HDPE (no PTFE)	20 mL	00350822039423	Grey	No	
038	0382_MW112_230313	HDPE (no PTFE)	20 mL	00350822039627	Grey	No	
039	0382_MW005_230314	HDPE (no PTFE)	20 mL	00350822039281	Grey	No	
039	0382_MW005_230314	HDPE (no PTFE)	20 mL	00350822039090	Grey	No	
039	0382_MW005_230314	HDPE (no PTFE)	20 mL	00350822039295	Grey	No	
039	0382_MW005_230314	HDPE (no PTFE)	20 mL	00350822039562	Grey	No	
040	0382_MW002_230315	HDPE (no PTFE)	20 mL	00350822039214	Grey	No	
040	0382_MW002_230315	HDPE (no PTFE)	20 mL	00350822039128	Grey	No	
040	0382_MW002_230315	HDPE (no PTFE)	20 mL	00350822039412	Grey	No	
040	0382_MW002_230315	HDPE (no PTFE)	20 mL	00350822039620	Grey	No	
041	0026_QC302_230315	HDPE (no PTFE)	20 mL	00350822039473	Grey	No	

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

041	0026_QC302_230315	HDPE (no PTFE)	20 mL	00350822039517	Grey	No	
041	0026_QC302_230315	HDPE (no PTFE)	20 mL	00350822039458	Grey	No	
041	0026_QC302_230315	HDPE (no PTFE)	20 mL	00350822039248	Grey	No	
042	0026_QC301_230314	HDPE (no PTFE)	20 mL	00350822039601	Grey	No	
042	0026_QC301_230314	HDPE (no PTFE)	20 mL	00350822039153	Grey	No	
042	0026_QC301_230314	HDPE (no PTFE)	20 mL	00350822039555	Grey	No	
042	0026_QC301_230314	HDPE (no PTFE)	20 mL	00350822039162	Grey	No	
043	0026_QC300_230313	HDPE (no PTFE)	20 mL	00350822039303	Grey	No	
043	0026_QC300_230313	HDPE (no PTFE)	20 mL	00350822039459	Grey	No	
043	0026_QC300_230313	HDPE (no PTFE)	20 mL	00350822039568	Grey	No	
043	0026_QC300_230313	HDPE (no PTFE)	20 mL	00350822039616	Grey	No	
044	0382_QC103_230314	HDPE (no PTFE)	20 mL	00350822039320	Grey	No	
044	0382_QC103_230314	HDPE (no PTFE)	20 mL	00350822039139	Grey	No	
044	0382_QC103_230314	HDPE (no PTFE)	20 mL	00350822039317	Grey	No	
044	0382_QC103_230314	HDPE (no PTFE)	20 mL	00350822039268	Grey	No	
045	0382_QC102_230313	HDPE (no PTFE)	20 mL	00350822039173	Grey	No	
045	0382_QC102_230313	HDPE (no PTFE)	20 mL	00350822039111	Grey	No	
045	0382_QC102_230313	HDPE (no PTFE)	20 mL	00350822039157	Grey	No	
045	0382_QC102_230313	HDPE (no PTFE)	20 mL	00350822039205	Grey	No	
046	0382_QC101_230313	HDPE (no PTFE)	20 mL	00350822039291	Grey	No	
046	0382_QC101_230313	HDPE (no PTFE)	20 mL	00350822039606	Grey	No	
046	0382_QC101_230313	HDPE (no PTFE)	20 mL	00350822039611	Grey	No	
046	0382_QC101_230313	HDPE (no PTFE)	20 mL	00350822039066	Grey	No	
047	0382_QC100_230313	HDPE (no PTFE)	20 mL	00350822039099	Grey	No	
047	0382_QC100_230313	HDPE (no PTFE)	20 mL	00350822039166	Grey	No	
047	0382_QC100_230313	HDPE (no PTFE)	20 mL	00350822039587	Grey	No	
047	0382_QC100_230313	HDPE (no PTFE)	20 mL	00350822039260	Grey	No	

CHAIN OF CUSTODY

COC#: **49129** *ALS Laboratory:* ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/3/23 1:29pm	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:

Total Bottle Count: ALS: 188, Non ALS: 0

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: PFAS OMP 60612562 **Client:** DoD **Project Manage** [redacted]

Phone:

ALS Compass COC Reference: 49129 **# Samples:** 47 **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?		°C	

Custody:

Relinquished by:	**Received by:**	**Relinquished by:**	**Received by:**
[redacted]			
Date / Time: 15/3/23 1600	**Date / Time:** 16/3/23 1:2pm	**Date / Time:**	**Date / Time:**

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 318769

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_0382_PFASOMP_23**
Number of Samples	4 Water
Date samples received	16/03/2023
Date completed instructions received	16/03/2023

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	23/03/2023
Date of Issue	23/03/2023
Reissue Details	This report replaces R01 created on 20/03/2023 due to: Sample ID Amended

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By **Authorised By**

[redacted]

PFAS in Waters Extended					
Our Reference		318769-1	318769-2	318769-3	318769-4
Your Reference	UNITS	0382_QC200_230313	0382_QC201_230313	0382_QC202_230313	0382_QC203_230314
Date Sampled		13/03/2023	13/03/2023	13/03/2023	14/03/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Date analysed	-	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	0.15	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	0.23	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.05	3.7	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	0.16	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.1	0.07	13	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	0.1	<0.02
Perfluoropentanoic acid	µg/L	<0.02	0.03	0.2	<0.02
Perfluorohexanoic acid	µg/L	0.01	0.04	0.84	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	0.07	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	0.19	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	100	99	100	102
Surrogate $^{13}C_2$ *PFOA*	%	102	104	115	113
Extracted ISTD $^{13}C_3$ *PFBS*	%	102	100	105	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101	100	106	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	99	91	100

PFAS in Waters Extended					
Our Reference		318769-1	318769-2	318769-3	318769-4
Your Reference	UNITS	0382_QC200_230313	0382_QC201_230313	0382_QC202_230313	0382_QC203_230314
Date Sampled		13/03/2023	13/03/2023	13/03/2023	14/03/2023
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	102	98	106	100
Extracted ISTD $^{13}C_3$ *PFPeA*	%	104	106	110	105
Extracted ISTD $^{13}C_2$ *PFHxA*	%	100	105	103	107
Extracted ISTD $^{13}C_4$ *PFHpA*	%	106	108	105	110
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	100	95	95
Extracted ISTD $^{13}C_5$ *PFNA*	%	102	101	87	104
Extracted ISTD $^{13}C_2$ *PFDA*	%	110	101	96	90
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	116	112	107	105
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	110	100	98	95
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	75	71	72	69
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	106	119	122	121
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	107	113	112	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	119	125	123	120
Extracted ISTD $^{13}C_8$ *FOSA*	%	106	105	108	110
Extracted ISTD d_3 *N MeFOSA*	%	104	108	105	105
Extracted ISTD d_5 *N EtFOSA*	%	107	111	115	112
Extracted ISTD d_7 *N MeFOSE*	%	106	100	99	96
Extracted ISTD d_9 *N EtFOSE*	%	90	88	94	87
Extracted ISTD d_3 *N MeFOSAA*	%	108	117	112	114
Extracted ISTD d_5 *N EtFOSAA*	%	109	119	114	117
Total Positive PFHxS & PFOS	µg/L	0.13	0.13	17	<0.01
Total Positive PFOA & PFOS	µg/L	0.1	0.09	13	<0.01
Total Positive PFAS	µg/L	0.14	0.21	19	<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-W1	318769-2
Date prepared	-			17/03/2023	1	17/03/2023	17/03/2023		17/03/2023	17/03/2023
Date analysed	-			17/03/2023	1	17/03/2023	17/03/2023		17/03/2023	17/03/2023
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	95	94
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	93	98
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.03	0	95	100
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	95	96
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.1	0.1	0	96	95
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	78	87
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	92	93
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	93	98
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	100	106
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	93	90
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	98	103
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	103
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	96
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	95	107
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	94	100
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	97
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	107	106
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	100
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	94	101
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	105
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	107	102
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	100
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	98	100
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	89	85
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	97	113
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	109	118
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	102	96
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	102
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	105	1	100	99	1	101	104
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	105	1	102	100	2	102	105

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	318769-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	101	1	102	99	3	101	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	107	1	101	101	0	106	104
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	1	99	93	6	95	99
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	106	1	102	102	0	106	95
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	109	1	104	101	3	107	105
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	102	1	100	102	2	100	101
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	106	1	106	106	0	101	107
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	99	1	96	95	1	96	96
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	1	102	95	7	98	98
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	109	1	110	87	23	94	102
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	120	1	116	85	31	104	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	112	1	110	72	42	98	103
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	73	1	75	45	50	74	73
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	112	1	106	104	2	106	122
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	117	1	107	101	6	116	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	131	1	119	105	12	117	116
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	105	1	106	92	14	97	99
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	107	1	104	98	6	106	109
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	110	1	107	98	9	109	113
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	107	1	106	84	23	108	98

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	318769-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	1	90	77	16	92	92
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	129	1	108	92	16	106	106
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	143	1	109	100	9	114	108

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).

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	NSW_0382_PFASOMP_23
Envirolab Reference	318769
Date Sample Received	16/03/2023
Date Instructions Received	16/03/2023
Date Results Expected to be Reported	23/03/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	4 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	6
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

[redacted]

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	PFAS in Waters Extended
0382_Q200_230313	✓
0382_Q201_230313	✓
0382_Q202_230313	✓
0382_Q203_230314	✓

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.

AECOM

Chain of Custody

AECOM Australia Pty Ltd
Level 21, 420 George Street
Sydney, NSW, 2000
PO Box Q410, QVB PO, Sydney, NSW, 1230
T +61 2 8934 1000
F +61 2 8934 0001
[redacted]

Laboratory Details
Lab. Name: Envirolab Tel: 02 8784 8555
Lab. Address: 12 Ashley St, Chaswood NSW 2067
Contact Name:
Lab. Ref: Lab Quote No:

Sampled By: [redacted] Project Name: NSW_0382_PFASOMP_20 AECOM Project #: 60612562_6.1 Purchase Order No:

Specifications: Please report in ESdat format

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

6. Report Format: ESdat 7. Project Manager:

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	sed	Preservation: filt'ed	acid	ice	other	Container (No. & type)	PFAS in Water Extended	HOLD	Notes
1	0382_QC200_2303	13/03/2023		X				X		3x plastic 20mL	X		
2	0382_QC201_2303	13/03/2023		X				X		3x plastic 20mL	X		
3	0382_QC202_2303	13/03/2023		X				X		3x plastic 20mL	X		
4	0382_QC203_2303	14/03/2023		X				X		3x plastic 20mL	X		
	~~0382_QC204_2303~~	~~/03/2023~~		X				X		~~3x plastic 20mL~~	X		

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 325769
Date Received: 16/3/23
Time Received: 12:00
Received By:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

Temp. received: °C

Report & Invoice: [redacted]

Lab Report No: Esky ID:

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

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, June 2023

PFAS OMP - Holsworthy

09-Aug-2023
Doc No. 20230809_OMP002_HOLS_SamplingEventFactualReport_Rev-0

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Delivering a better world

Sampling Event Factual Report, June 2023

PFAS OMP - Holsworthy

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8008 1700 www.aecom.com
ABN 20 093 846 925

09-Aug-2023

Job No.: 60612562

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

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C	08-Aug-2023	Draft		
0	09-Aug-2023	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
LFS	Liverpool Fire Station
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	Perfluorooctanesulfonic acid
PMAP	PFAS Management Area Plan

Acronym	Term
QA/QC	Quality Assurance and Quality Control
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
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	MicroSiemens 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 Holsworthy Barracks (hereafter referred to as the 'Site') in the New South Wales (NSW) and Jervis Bay Territory (JBT) Region. The location of the Site & surrounding areas is shown in **Figure F1** in **Appendix A**

The OMP (Defence, 2020a) outlines the sampling requirements for the Site and off-Site areas.

Following each sampling event, factual sampling event reports will be prepared. Ongoing Monitoring Interpretive Report (OMIP) 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 June 2023 quarterly 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).

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2020a) prepared as part of the Detailed Environmental Investigations (CH2M Hill, 2018); 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, 2020b).

The objective of this phase of works was to implement the scope of works for the June 2023 quarterly 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 in general accordance with the SAQP (AECOM, 2023), as follows:

- obtain permission (where required) to conduct works off-Site publicly accessible areas
- gauging of groundwater level in monitoring wells prior to collection of samples
- groundwater sampling and collection of water quality parameters at 10 of 12 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations)
- surface water sampling and collection of water quality parameters at 1 of 3 scheduled surface water locations (refer to **Table 2** 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
- collection of rinsate blank samples at a rate of 1 per day of sampling per piece of equipment which is decontaminated and re-used between sampling locations
- analysis of samples for PFAS suite 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.

Note: due to privacy considerations, selected monitoring locations are unable to be shown on the figures in **Appendix A**.

Table 1 Groundwater Sampling Locations

Area	Description	Sampling Location	Total
Off-Site Road Reserve	Off-Site road verges associated with Liverpool Fire Station	MW112, MW112P, MW119, MW119P, MW129, MW130, MW131, MW133, MW134*, MW136	10
Off-Site Commercial Property	Liverpool Fire Station	MW113, MW115*	2
Total			**12**
* Location not sampled			

Table 2 Surface Water Sampling Locations

Area	Description	Sampling Locations	Total
Off-Site	Liverpool Fire Station	SW001*, SW059, SW111*	3
Total			**3**
*Location not sampled			

3.0 Deviations from the SAQP

The June 2023 quarterly sampling event was completed in general accordance with the SAQP (AECOM, 2023) with the exception of the deviations outlined in **Table 3** below.

Table 3 Deviations from SAQP (AECOM, 2023)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, as well as associated gauging and water quality parameters, were not collected from one of the 12 scheduled groundwater sampling locations.	Groundwater monitoring well MW115 was not accessible during this monitoring event due to a demountable building being placed over the well within the Liverpool Fire Station (LFS). AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	The lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be appropriately located to provide representative PFAS concentrations within the LFS area.
Samples, as well as associated water quality parameters, were not collected from one of the 12 scheduled groundwater sampling locations.	Groundwater monitoring well MW134 had an insufficient water column and could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for MW134 is not considered to have a significant impact on the dataset, or present a significant data gap, as the well was sampled in March 2023. Furthermore, the well was installed to target discontinuous perched water that is anticipated to contain water during wet periods.
Samples, as well as associated water quality parameters, were not collected from two of the three scheduled surface water sampling locations.	Surface water locations SW001 and SW111 were dry and could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for these locations are not considered to have a significant impact on the dataset, or present a significant data gap, as both locations were sampled in March 2023. Additionally, the dry conditions confirms the pathway linkages between source and receptor for PFAS in surface water were incomplete at the time of sampling.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the June 2023 quarterly sampling event was in accordance with the SAQP (AECOM, 2023) and is summarised in **Table 4** below.

Table 4 Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe. Measurements of depth to groundwater were undertaken using an interface probe, which was serviced by the supplier prior to use. The equipment supplier records are provided in **Appendix C**.
Water quality 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. Water quality parameters were collected using a calibrated water quality meter (WQM). The equipment supplier and field calibration records are provided in **Appendix C**.
Sampling methodology	**Groundwater Monitoring Wells** The majority of 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, all the HydraSleeves™ were installed during previous sampling event in March 2023. 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.

Item	Details
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 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. • *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 June 2023 quarterly sampling event, the QA/QC samples included: • 2 x intra-laboratory duplicates (2 groundwater), which met the target frequency • 2 x inter-laboratory duplicates (2 groundwater) which met the target frequency • 1 x rinsate blank, 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 suite 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 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 5** below.

Table 5 Summary of Adopted Screening Criteria: Water

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water – groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP (2020) are from the 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 Food Standards Australia New Zealand (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. 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	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. These values were adopted by the HEPA NEMP 2.0 (2020). *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater	PFOS	0.13 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 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results were compared to these criteria.*
	PFOA	220 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 (AECOM, 2023). 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 outside historical ranges at MW136, the primary laboratory was requested to repeat the analysis to confirm the reported concentrations. The repeat analysis 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) 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 June 2023 quarterly sampling event completed on 13 June 2023 are summarised in **Table 6** below.

Table 6 General Observations

Items	Observations
Weather Conditions	During the sampling event, the weather was recorded to be warm, with maximum daily temperature of 20.2˚C. A cumulative 0.8 mm of rainfall was recorded at Holsworthy (Holsworthy Aerodrome AWS, 66161) (Bureau of Meteorology, 2021) during the sampling event.
Estate Management Works, Training Activities and/or Construction Works.	During the sampling event, a demountable structure was found to be placed over monitoring well MW115, within the LFS. The demountable is understood to be a temporary structure housing the Busby Fire Station for a period of 12 to 18 months (from December 2022), impeding access to MW115 during this period. No other 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 June 2023 quarterly sampling event are summarised in **Table 7**, below.

Table 7 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	The wells sampled were observed to be in good condition with the exception of the following: • MW112P was missing bolts.
Water Observations	No visible signs of contamination were observed in groundwater and surface water at the locations sampled. Organic odours were noted at one groundwater location (MW136) .
Depth to Groundwater and Flow Direction	Depth to groundwater ranged between 1.330 (MW129) and 4.704 (MW113) metres below top of casing (mbTOC). Groundwater elevation ranged between 8.196 (MW129) and 11.276 (MW112P) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. The inferred local groundwater flow direction was predominantly to the northeast in the vicinity of the LFS, (refer to **Figure F4** in **Appendix A**). This is generally consistent with the inferred groundwater flow direction described in the Detailed Site Investigation (CH2M Hill, 2018). It is noted that gauging data from five wells (MW112P, MW119P, MW133, MW134 and MW136) in the vicinity of the LFS are excluded from the groundwater elevation plan in **Figure F4** in **Appendix A** due to the wells being screened across discontinuous perched water.

Item	Description
Water Quality Parameters	Groundwater and surface water quality 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 Quality Parameters** • Dissolved oxygen ranged from 1.23 mg/L (MW113) to 4.26 mg/L (MW129) indicating moderately oxygenated conditions. • Electrical conductivity ranged from 270.6 µS/cm (MW113) to 1,675 µS/cm (MW112) indicating fresh to brackish conditions. • pH ranged from 4.68 (MW130) to 7.18 (MW119) indicating moderately acidic to neutral conditions. • Redox (corrected) ranged from 184.3 mV (MW136) to 418.7 mV (MW130) indicating moderately reducing to oxidising conditions. **Surface Water Quality Parameters** • Dissolved oxygen recorded was 5.62 mg/L (SW059) indicating well oxygenated conditions. • Electrical conductivity recorded was 259.7 µS/cm (SW059) indicating fresh conditions. • pH recorded was 7.02 (SW059) indicating neutral conditions. • Redox (corrected) recorded was 273.6 mV (SW059) indicating oxidising conditions. • Temperature recorded was 12 ˚C (SW059).

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 T4** in **Appendix B**. In summary, 10 primary groundwater samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 10 primary samples
- PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in nine primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in eight primary samples.

Deviations from the historical dataset are reported in **Table 8**. Deviations have not been displayed graphically, in this instance, due to privacy considerations.

Table 8 Deviations from Historical Dataset: Groundwater

Deviation Type	Groundwater sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		Jun 2023	Previous maximum	Jun 2023	Previous maximum	Jun 2023	Previous maximum
First-time detections of PFOS+PFHxS PFOS and/or PFOA in groundwater	-	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.	

Deviation Type	Groundwater sampling location	PFOS+PFHxS (µg/L)		PFOA (µg/L)		PFOS (µg/L)	
		Jun 2023	Previous maximum	Jun 2023	Previous maximum	Jun 2023	Previous maximum
New exceedance of the NEMP (HEPA, 2020) drinking water guidelines groundwater	-	There were no new exceedances of NEMP Human Health Screening Criteria in the dataset.		There were no new exceedances of NEMP Human Health Screening Criteria in the dataset.		There are no applicable NEMP Human Health Screening Criteria.	
New exceedance of the NEMP (HEPA, 2020) Freshwater 95% guidelines in groundwater	MW136	There are no applicable NEMP Ecological Screening Criteria (95%).		0.01	0.03	0.23	0.11
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 exceedances of NEMP Human Health and/or Ecological Screening Criteria						

5.3.2 Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, one primary surface water sample was analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in the primary sample.
- PFOS+PFHxS and/or PFOA did not exceed the adopted human health screening criteria for recreational use in the primary sample.
- PFOS and/or PFOA did not exceed the adopted ecological screening criteria in the primary sample.

There were no first-time detections, or new exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA, in the surface water sample analysed.

5.4 Historical Sampling Data

Historical groundwater and surface water sampling data are presented in **Tables T6** and **T7** (respectively) in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The June 2023 quarterly sampling event was completed on 13 June 2023. The findings and the recommended actions are summarised in **Table 9** below.

Table 9 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following locations were accessed and able to be sampled: • 10 groundwater locations • 1 surface water location	Nil.
Location unable to be located, inaccessible or dry	Sampling at the following two groundwater monitoring well locations were not completed during the sampling event: - MW115, as the location was covered by a demountable building within the LFS area - MW134, as the location was observed to have an insufficient water column for sampling. Two surface water locations (SW001 and SW111) were dry and therefore not sampled.	AECOM understands that the building at MW115 is temporary and will remain for a period of 12 to 18 months (from December 2022). Therefore, AECOM will revisit this location during the next scheduled sampling event (September 2023) to check if the building has been removed and sampling can be completed. AECOM will attempt to sample MW134, SW001 and SW111 during the next scheduled sampling event in September 2023.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition, with the exception of one monitoring well (MW112P), which had no bolts.	AECOM will replace the missing bolts at MW112P in the next sampling event in September 2023.
Analytical Results	10 groundwater primary samples and 1 surface water primary sample were analysed.	Locations will be sampled 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 groundwater or surface water locations sampled reported first-time detections of PFOS+PFHxS, PFOA and/or PFOS.	Locations will be sampled again during the next scheduled sampling event to continue to monitor concentrations over time.
New exceedance of adopted human health screening criteria	No groundwater or surface water locations sampled reported new exceedances of 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.

Item	Comment	Recommended Action
New exceedance of adopted ecological screening criteria	One of 10 groundwater locations sampled (MW136) reported a new exceedance of the adopted ecological screening criteria for PFOS. No surface water locations sampled reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA.	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 September 2023.

6.3 Upcoming Ongoing Monitoring Interpretive Report

The next OMIP is scheduled to be delivered in Q3 2023.

7.0 References

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Department of Health, 2017. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.

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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 (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*

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

Appendix A

Figures

AECOM

N

0 500 1,000 m

Legend

- Site Boundary
- Primary Source Area
- Study Area

FIGURE F1:
STUDY AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
June 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater location (not sampled)
- Groundwater location (sampled)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

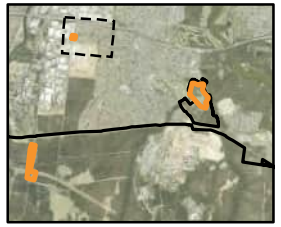

FIGURE F2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
June 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

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N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Surface Water location (sampled)
- Surface Water location (not sampled)

FIGURE F3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
June 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour
- Inferred Groundwater Flow Direction
- Groundwater Monitoring Well (not sampled)
- Groundwater Monitoring Well (sampled)
- 8.348 Groundwater Elevation (mAHD)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

(*) Groundwater elevation data excluded from contouring

FIGURE F4:
GROUNDWATER ELEVATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
June 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 50 100 m

Legend

- Site Boundary
- Primary Source Area
- New exceedance of human health and/or ecological screening criteria for PFOS+PFHxS and/or PFOA
- Sampled, no first-time detection or new exceedance
- Location not accessed and/or sampled

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown.

A new exceedance of the ecological screening criteria for PFOS and/or PFOA was recorded for MW136

FIGURE F5:
GROUNDWATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
June 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

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
MW112	BH112	13.420	10.3	13.3	12.0	13/06/2023 9:45	4.430	8.990	13.310	Good condition.
MW112P	BH112_P	13.430	2	5	3.5	13/06/2023 9:52	2.154	11.276	5.110	Good condition. No bolts.
MW113	BH113	13.460	10.9	14.9	12.0	13/06/2023 9:28	4.704	8.756	14.950	Good condition.
MW115	BH115	14.080	10.1	13.1	n/a	13/06/2023 9:35	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW119	BH119	11.010	8	11	9.5	13/06/2023 10:14	2.670	8.340	11.270	Good condition.
MW119P	BH119_P, MW119S	11.120	2	5	3.0	13/06/2023 10:07	2.755	8.365	4.640	Good condition.
MW129		9.526	5	8	6.5	13/06/2023 10:56	1.330	8.196	7.740	Good condition.
MW130		12.986	6	9	7.5	13/06/2023 8:34	4.605	8.381	8.750	Good condition.
MW131		12.179	7	10	8.5	13/06/2023 9:01	3.891	8.288	10.090	Good condition.
MW133	MW133P	13.350	2	4	3.0	13/06/2023 8:49	3.693	9.657	4.880	Good condition.
MW134		13.210	1.9	3.9	3.0	13/06/2023 9:19	4.655	8.555	4.670	Good condition. Well considered dry for the purpose of sampling.
MW136	MW136P	11.860	2.25	4.25	3.0	13/06/2023 9:10	3.290	8.570	4.950	Good condition.

Notes

mbTOC	metres below Top of Casing
mAHD	metres Australian Height Datum
n/a	Not applicable

Table T2 - Groundwater Quality Parameters and Observations

			Water Quality Parameters					
			Dissolved Oxygen	Temperature	Electrical Conductivity	pH	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Sampled Date Time**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
MW112	13/06/2023 9:47	Clear, no turbidity, no odour, no sheen.	1.35	19.7	1675.0	6.17	65.2	271.0
MW112P	13/06/2023 9:52	Light grey, low turbidity, no odour, no sheen.	1.58	18.5	336.7	5.40	45.3	251.1
MW113	13/06/2023 9:30	Clear, low turbidity, no odour, no sheen.	1.23	19.3	270.6	5.62	-18.2	187.6
MW115	n/a	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	n/a	n/a	n/a	n/a	n/a	n/a
MW119	13/06/2023 10:19	Light grey, low turbidity, no odour, no sheen.	1.30	19.1	878.0	7.18	116.3	322.1
MW119P	13/06/2023 10:09	Light yellow, low turbidity, no odour, no sheen.	3.50	18.8	712.0	4.75	119.1	324.9
MW129	13/06/2023 10:57	Yellow, low turbidity, no odour, no sheen.	4.26	18.7	519.0	7.09	64.0	269.8
MW130	13/06/2023 8:36	Yellow, medium turbidity, no odour, no sheen.	2.52	19.2	904.0	4.68	212.9	418.7
MW131	13/06/2023 9:02	Light grey, low turbidity, no odour, no sheen.	1.84	20.6	1386.0	5.87	157.7	363.5
MW133	13/06/2023 8:51	Light yellow, medium turbidity, no odour, no sheen.	2.21	20.8	584.0	6.40	175.4	381.2
MW134	n/a	n/a - not sampled, insufficient water column to sample.	n/a	n/a	n/a	n/a	n/a	n/a
MW136	13/06/2023 9:13	Light grey, medium turbidity, organic odour, no sheen.	2.30	20.5	1402.0	6.47	-21.5	184.3

Notes

mg/L	milligrams per Litre
°C	degrees Celsius
µS/cm	microSiemens per centimetre
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)
Location Code	**Sampled Date Time**	**Location Comments**	**Sample Depth From (m)**	**Sample Depth To (m)**	**Sample Comment**	mg/L	°C	µS/cm	pH_Units	mV	mV
SW001	n/a	Swale/drainage channel. Waterbody dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SW059	13/06/2023 11:07	Creek. Waterbody 1 m wide, 0.2 m deep. Water flow not observed.	0.1	0.2	Clear, no turbidity, no odour, no sheen.	5.62	12.0	259.7	7.02	67.8	273.6
SW111	n/a	Creek. Waterbody dry.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

n/a Not applicable

Table T4 - 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							0.01	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 95%							*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																															
MW112	13 Jun 2023	0382_MW112_230613	Normal	ES2319522			**2.19**	*26.8*	36.0	**62.8**	81.3	3.03	4.11	2.62	*<0.02*	0.5	0.79	4.41	0.84	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	13 Jun 2023	0382_MW112P_230613	Normal	ES2319522			0.30	*27.7*	4.55	**32.2**	35.0	0.20	0.32	0.38	*<0.02*	0.2	0.22	1.02	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<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	13 Jun 2023	0382_MW113_230613	Normal	ES2319522			**26.3**	*376*	384	**760**	1,040	51.5	58.0	34.7	0.10	7.6	15.3	70.8	11.8	0.17	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	5.63	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_MW119_230613	Normal	ES2319522			**0.82**	*32.5*	13.6	**46.1**	56.5	1.51	2.17	0.75	*<0.02*	0.7	0.82	3.23	0.44	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_QC101_230613	Field_D	ES2319522			**0.79**	*30.0*	12.8	**42.8**	52.9	1.47	2.01	0.68	*<0.02*	0.7	0.82	3.17	0.42	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_QC201_230613	Interlab_D	325510			**0.60**	*24*	9.6	**33**	41	1.2	1.5	0.44	*<0.02*	0.52	0.63	2.6	0.34	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*
MW119P	13 Jun 2023	0382_MW119P_230613	Normal	ES2319522			**4.37**	*178*	55.2	**233**	261	2.94	5.09	6.43	*<0.02*	0.5	1.00	6.24	1.17	0.06	*<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*
MW129	13 Jun 2023	0382_MW129_230613	Normal	ES2319522			*<0.01*	0.04	*<0.01*	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*
MW130	13 Jun 2023	0382_MW130_230613	Normal	ES2319522			*<0.01*	0.03	0.05	**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*
MW130	13 Jun 2023	0382_QC100_230613	Field_D	ES2319522			*<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*
MW130	13 Jun 2023	0382_QC200_230613	Interlab_D	325510			*<0.01*	*<0.01*	0.03	0.03	0.03	*<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*
MW131	13 Jun 2023	0382_MW131_230613	Normal	ES2319522			*<0.01*	*0.40*	0.04	**0.44**	0.44	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW133	13 Jun 2023	0382_MW133_230613	Normal	ES2319522			**3.44**	*536*	32.2	**568**	600	1.78	2.53	13.3	*<0.02*	1.3	1.68	7.65	0.56	0.06	*<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*
MW136	13 Jun 2023	0382_MW136_230613	Normal	ES2319522			0.01	*0.23*	0.15	**0.38**	0.55	0.07	0.05	*<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*

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 T5 - 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	µg/L
LOR						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
PFAS NEMP 2020 Recreational Water						**10**			**2**																										
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																															
SW059	13 Jun 2023	0382_SW059_230613	Normal	ES2319522		0.01	0.08	0.07	0.15	0.23	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	0.03	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*

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 - Groundwater Historical 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 95%	*220*	*0.13*																												

Location Code	Date	Field ID	Sample Type	Project ID																											
MW112	28 Mar 2018	0382_MW112_180328	Normal	NSW_0382_PFAS	**4.3**	*64*	58	**122**	162.2	6.7	12	3.3	*<0.01*	0.99	1.5	9.7	1.7	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW112	01 Oct 2020	0382_MW112_201001	Normal	NSW_0382_PFASOMP_20	**4.75**	*52.8*	70.4	**123**	167	6.32	10.3	6.01	*<0.02*	1.0	1.87	11.6	1.97	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	03 Dec 2020	0382_MW112_201203	Normal	NSW_0382_PFASOMP_20	**3.03**	*30.0*	42.4	**72.4**	100	3.86	6.31	2.92	*<0.02*	0.9	1.29	8.16	1.38	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	25 Mar 2021	0382_MW112_210325	Normal	NSW_0382_PFASOMP_20	**3.76**	*25.7*	47.4	**73.1**	104	5.13	6.30	2.92	*<0.02*	0.9	1.46	8.38	1.58	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	07 Jun 2021	0382_MW112_210607	Normal	NSW_0382_PFASOMP_20	**4.14**	*37.9*	49.5	**87.4**	123	5.33	8.27	4.27	*<0.02*	0.9	1.53	9.40	1.58	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	07 Sep 2021	0382_MW112_210907	Normal	NSW_0382_PFASOMP_20	**3.12**	*21.2*	44.0	**65.2**	93.8	4.61	6.47	3.01	*<0.02*	0.8	1.33	7.88	1.29	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.05	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	06 Dec 2021	0382_MW112_211206	Normal	NSW_0382_PFASOMP_20	**2.43**	*34.9*	46.8	**81.7**	111	5.31	5.51	3.65	*<0.02*	0.9	1.26	9.28	1.32	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	23 Mar 2022	0382_MW112_220323	Normal	NSW_0382_PFASOMP_20	**3.25**	*31.8*	48.8	**80.6**	109	5.01	6.00	3.21	*<0.02*	0.6	1.14	8.13	1.26	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	15 Jun 2022	0382_MW112_220615	Normal	NSW_0382_PFASOMP_20	**4.72**	*45.6*	72.0	**118**	159	7.22	8.57	4.30	*<0.05*	1.2	1.77	11.6	2.01	*<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*
MW112	05 Sep 2022	0382_MW112_220905	Normal	NSW_0382_PFASOMP_20	**1.56**	*22.0*	32.4	**54.4**	71.5	2.02	4.00	4.10	*<0.02*	0.4	0.72	3.61	0.65	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	05 Dec 2022	0382_MW112_221205	Normal	NSW_0382_PFASOMP_20	**1.93**	*25.1*	36.0	**61.1**	81.7	2.86	4.48	4.35	*<0.02*	0.5	0.82	4.84	0.82	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112	13 Mar 2023	0382_MW112_230313	Normal	NSW_0382_PFASOMP_23	**2.65**	*27.2*	40.4	**67.6**	90.0	3.46	4.96	3.02	*<0.02*	0.7	1.07	5.46	1.03	*<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*
MW112	13 Jun 2023	0382_MW112_230613	Normal	NSW_0382_PFASOMP_23	**2.19**	*26.8*	36.0	**62.8**	81.3	3.03	4.11	2.62	*<0.02*	0.5	0.79	4.41	0.84	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	28 Mar 2018	0382_MW112_P_180328	Normal	NSW_0382_PFAS	0.33	*50*	6.0	**56**	60.19	0.33	1.2	0.34	*<0.01*	0.16	0.30	1.4	0.13	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW112P	01 Oct 2020	0382_MW112_P_201001	Normal	NSW_0382_PFASOMP_20	0.40	*37.3*	8.10	**45.4**	49.8	0.33	0.64	0.52	*<0.02*	0.2	0.35	1.78	0.16	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	03 Dec 2020	0382_MW112_P_201203	Normal	NSW_0382_PFASOMP_20	0.22	*23.2*	4.43	**27.6**	30.2	0.20	0.38	0.29	*<0.02*	0.1	0.22	1.09	0.11	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	25 Mar 2021	0382_MW112_P_210325	Normal	NSW_0382_PFASOMP_20	0.25	*20.1*	4.75	**24.8**	27.7	0.19	0.28	0.24	*<0.02*	0.2	0.24	1.35	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	25 Mar 2021	0382_QC100_210325	Field_D	NSW_0382_PFASOMP_20	0.25	*22.5*	5.06	**27.6**	30.6	0.21	0.31	0.27	*<0.02*	0.2	0.26	1.45	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	07 Jun 2021	0382_MW112P_210607	Normal	NSW_0382_PFASOMP_20	0.33	*28.2*	5.56	**33.8**	37.0	0.24	0.40	0.36	*<0.02*	0.2	0.28	1.32	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	07 Sep 2021	0382_MW112P_210907	Normal	NSW_0382_PFASOMP_20	0.24	*19.1*	4.68	**23.8**	26.6	0.20	0.32	0.29	*<0.02*	0.2	0.23	1.26	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	06 Dec 2021	0382_MW112P_211206	Normal	NSW_0382_PFASOMP_20	0.19	*20.8*	3.90	**24.7**	27.2	0.18	0.24	0.23	*<0.02*	0.2	0.20	1.17	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	23 Mar 2022	0382_MW112P_220323	Normal	NSW_0382_PFASOMP_20	0.05	*7.08*	1.67	**8.75**	9.18	0.04	0.08	0.09	*<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*
MW112P	15 Jun 2022	0382_MW112P_220615	Normal	NSW_0382_PFASOMP_20	0.26	*30.6*	5.74	**36.3**	39.4	0.22	0.28	0.35	*<0.02*	0.2	0.30	1.31	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	05 Sep 2022	0382_MW112P_220905	Normal	NSW_0382_PFASOMP_20	0.25	*24.3*	4.36	**28.7**	31.3	0.16	0.30	0.31	*<0.02*	0.2	0.26	1.04	0.08	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	05 Dec 2022	0382_MW112P_221205	Normal	NSW_0382_PFASOMP_20	0.15	*16.3*	3.68	**20.0**	21.5	0.12	0.23	0.16	*<0.02*	*<0.1*	0.12	0.66	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	13 Mar 2023	0382_MW112P_230313	Normal	NSW_0382_PFASOMP_23	0.18	*18.7*	4.98	**23.7**	25.9	0.16	0.28	0.22	*<0.02*	0.1	0.16	1.04	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	13 Mar 2023	0382_QC102_230313	Field_D	NSW_0382_PFASOMP_23	0.17	*17.2*	4.48	**21.7**	23.8	0.16	0.30	0.22	*<0.02*	0.1	0.17	0.96	0.07	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW112P	13 Mar 2023	0382_QC202_230313	Interlab_D	NSW_0382_PFASOMP_23	0.19	*13*	3.7	**17**	19	0.15	0.23	0.16	*<0.02*	0.1	0.2	0.84	0.07	*<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*
MW112P	13 Jun 2023	0382_MW112P_230613	Normal	NSW_0382_PFASOMP_23	0.30	*27.7*	4.55	**32.2**	35.0	0.20	0.32	0.38	*<0.02*	0.2	0.22	1.02	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	28 Mar 2018	0382_MW119_180328	Normal	NSW_0382_PFAS	0.08	*0.62*	1.9	**2.52**	4.26	0.42	0.58	0.03	*<0.01*	0.05	0.07	0.44	0.07	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW119	28 Mar 2018	0382_QC102_180328	Field_D	NSW_0382_PFAS	0.08	*0.62*	2.2	**2.82**	4.51	0.43	0.49	0.04	*<0.01*	0.05	0.07	0.46	0.07	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW119	01 Oct 2020	0382_MW119_201001	Normal	NSW_0382_PFASOMP_20	0.36	*18.6*	5.17	**23.8**	26.8	0.62	0.62	0.37	*<0.02*	*<0.1*	0.16	0.80	0.10	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	03 Dec 2020	0382_MW119_201203	Normal	NSW_0382_PFASOMP_20	0.10	*2.03*	1.04	**3.07**	3.98	0.19	0.19	0.06	*<0.02*	*<0.1*	0.06	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*
MW119	25 Mar 2021	0382_MW119_210325	Normal	NSW_0382_PFASOMP_20	0.39	*24.0*	5.78	**29.8**	34.3	0.78	0.56	0.32	*<0.02*	0.4	0.43	1.53	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	07 Jun 2021	0382_MW119_210607	Normal	NSW_0382_PFASOMP_20	0.40	*8.80*	3.59	**12.4**	16.8	0.81	0.55	0.15	*<0.02*	0.4	0.47	1.53	0.14	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	07 Jun 2021	0382_QC100_210607	Field_D	NSW_0382_PFASOMP_20	0.40	*7.53*	3.41	**10.9**	15.3	0.78	0.53	0.14	*<0.02*	0.4	0.49	1.47	0.15	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	07 Sep 2021	0382_MW119_210907	Normal	NSW_0382_PFASOMP_20	0.55	*8.84*	6.17	**15.0**	21.6	1.12	1.08	0.31	*<0.02*	0.46	0.59	2.28	0.25	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	06 Dec 2021	0382_MW119_211206	Normal	NSW_0382_PFASOMP_20	0.39	*7.43*	5.36	**12.8**	18.9	1.07	0.89	0.25	*<0.02*	0.4	0.46	2.40	0.21	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	23 Mar 2022	0382_MW119_220323	Normal	NSW_0382_PFASOMP_20	0.55	*32.8*	4.60	**37.4**	46.7	0.84	0.53	0.35	*<0.02*	2.2	1.63	3.00	0.22	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	15 Jun 2022	0382_MW119_220615	Normal	NSW_0382_PFASOMP_20	**0.63**	*27.3*	6.50	**33.8**	42.2	0.77	0.70	0.42	*<0.02*	1.4	1.31	2.91	0.28	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	05 Sep 2022	0382_MW119_220905	Normal	NSW_0382_PFASOMP_20	0.37	*21.3*	4.62	**25.9**	31.8	0.49	0.67	0.32	*<0.02*	0.9	0.89	2.00	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*
MW119	05 Dec 2022	0382_MW119_221205	Normal	NSW_0382_PFASOMP_20	0.47	*26.2*	7.96	**34.2**	40.9	0.80	1.31	0.43	*<0.02*	0.6	0.71	2.17	0.25	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Mar 2023	0382_MW119_230313	Normal	NSW_0382_PFASOMP_23	**0.86**	*33.8*	13.7	**47.5**	58.9	1.79	2.04	0.64	*<0.02*	0.8	1.04	3.72	0.52	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_MW119_230613	Normal	NSW_0382_PFASOMP_23	**0.82**	*32.5*	13.6	**46.1**	56.5	1.51	2.17	0.75	*<0.02*	0.7	0.82	3.23	0.44	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_QC101_230613	Field_D	NSW_0382_PFASOMP_23	**0.79**	*30.0*	12.8	**42.8**	52.9	1.47	2.01	0.68	*<0.02*	0.7	0.82	3.17	0.42	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119	13 Jun 2023	0382_QC201_230613	Interlab_D	NSW_0382_PFASOMP_23	**0.60**	*24*	9.6	**33**	41	1.2	1.5	0.44	*<0.02*	0.52	0.63	2.6	0.34	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*
MW119P	28 Mar 2018	0382_MW119_P_180328	Normal	NSW_0382_PFAS	**1.6**	*30*	16	**46**	60.25	2.2	3.9	2.0	*<0.01*	0.33	0.48	3.3	0.44	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW119P	01 Oct 2020	0382_MW119_P_201001	Normal	NSW_0382_PFASOMP_20	**1.22**	*4.32*	34.8	**39.1**	65.1	4.00	5.55	1.26	*<0.02*	0.7	1.73	10.4	1.15	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	03 Dec 2020	0382_MW119_P_201203	Normal	NSW_0382_PFASOMP_20	0.40	*2.65*	10.3	**13.0**	22.5	1.53	2.76	0.30	*<0.02*	0.4	0.59	3.16	0.43	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	25 Mar 2021	0382_MW119_P_210325	Normal	NSW_0382_PFASOMP_20	0.40	*1.89*	10.3	**12.2**	20.5	1.61	1.93	0.27	*<0.02*	0.3	0.51	2.95	0.38	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	07 Jun 2021	0382_MW119P_210607	Normal	NSW_0382_PFASOMP_20	**5.40**	*51.6*	114	**166**	277	16.3	26.0	6.42	*<0.02*	1.8	6.24	44.4	4.09	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.38	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	07 Sep 2021	0382_MW119P_210907	Normal	NSW_0382_PFASOMP_20	**6.40**	*69.5*	156	**226**	316	13.4	23.8	6.64	*<0.02*	1.35	4.32	29.5	4.64	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.42	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	06 Dec 2021	0382_MW119P_211206	Normal	NSW_0382_PFASOMP_20	**6.06**	*52.5*	130	**182**	250	9.30	15.4	7.23	*<0.04*	1.0	2.60	22.6	3.18	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.44	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*
MW119P	23 Mar 2022	0382_MW119P_220323	Normal	NSW_0382_PFASOMP_20	**9.02**	*156*	176	**332**	418	13.2	18.3	14.3	*<0.04*	1.0	2.48	23.9	3.58	0.05	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	0.40	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*

Table T6 - Groundwater Historical 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 95%					*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																													
MW119P	15 Jun 2022	0382_MW119P_220615	Normal	NSW_0382_PFASOMP_20	**13.4**	*200*	257	**457**	584	16.2	33.4	24.0	*<0.05*	1.6	3.54	28.8	5.28	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.32	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*
MW119P	05 Sep 2022	0382_MW119P_220905	Normal	NSW_0382_PFASOMP_20	**14.6**	*191*	247	**438**	562	13.7	36.0	31.5	*<0.05*	1.1	2.68	19.0	4.72	0.06	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.24	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*
MW119P	05 Dec 2022	0382_MW119P_221205	Normal	NSW_0382_PFASOMP_20	**11.6**	*206*	194	**400**	496	11.5	24.8	20.8	*<0.02*	0.8	2.50	19.9	3.84	0.04	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	0.20	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW119P	13 Mar 2023	0382_MW119P_230313	Normal	NSW_0382_PFASOMP_23	**6.16**	*230*	91.0	**321**	365	5.18	8.72	9.38	*<0.05*	0.9	1.53	10.3	1.92	0.08	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	0.18	*<0.05*	*<0.05*	*<0.05*	*<0.12*	*<0.05*	*<0.12*	*<0.12*	*<0.05*	*<0.12*
MW119P	13 Jun 2023	0382_MW119P_230613	Normal	NSW_0382_PFASOMP_23	**4.37**	*178*	55.2	**233**	261	2.94	5.09	6.43	*<0.02*	0.5	1.00	6.24	1.17	0.06	*<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*	*<0.02*	*<0.05*	*<0.02*
MW129	17 Jul 2018	0382_MW129_180717	Normal	NSW_0382_PFAS	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.1*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW129	01 Oct 2020	0382_MW129_201001	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	*<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*
MW129	03 Dec 2020	0382_MW129_201203	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	25 Mar 2021	0382_MW129_210325	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	07 Jun 2021	0382_MW129_210607	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	07 Sep 2021	0382_MW129_210907	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.02	0.06	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.10*	*<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	06 Dec 2021	0382_MW129_211206	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	23 Mar 2022	0382_MW129_220323	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	15 Jun 2022	0382_MW129_220615	Normal	NSW_0382_PFASOMP_20	*<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*
MW129	05 Sep 2022	0382_MW129_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.03	*<0.01*	0.03	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*
MW129	05 Dec 2022	0382_MW129_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.05	0.01	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*
MW129	13 Mar 2023	0382_MW129_230313	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.06	0.02	**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*
MW129	13 Jun 2023	0382_MW129_230613	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.04	*<0.01*	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*
MW130	17 Jul 2018	0382_MW130_180717	Normal	NSW_0382_PFAS	*<0.01*	*<0.01*	0.02	0.02	*<0.1*	0.01	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW130	01 Oct 2020	0382_MW130_201001	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	03 Dec 2020	0382_MW130_201203	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	25 Mar 2021	0382_MW130_210325	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	07 Jun 2021	0382_MW130_210607	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	07 Sep 2021	0382_MW130_210907	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	07 Sep 2021	0382_QC103_210907	Field_D	NSW_0382_PFASOMP_20	*<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*
MW130	06 Dec 2021	0382_MW130_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.11	0.07	**0.18**	0.18	*<0.02*	*<0.02*	*<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*
MW130	23 Mar 2022	0382_MW130_220323	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	15 Jun 2022	0382_MW130_220615	Normal	NSW_0382_PFASOMP_20	*<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*
MW130	15 Jun 2022	0382_QC100_220615	Field_D	NSW_0382_PFASOMP_20	*<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*
MW130	05 Sep 2022	0382_MW130_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.02	0.04	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*
MW130	05 Sep 2022	0382_QC101_220905	Field_D	NSW_0382_PFASOMP_20	*<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*
MW130	05 Dec 2022	0382_MW130_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.10	0.04	**0.14**	0.14	*<0.02*	*<0.02*	*<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*
MW130	05 Dec 2022	0382_QC200_221205	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	*0.16*	0.07	**0.24**	0.27	0.02	0.02	*<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*
MW130	13 Mar 2023	0382_MW130_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.05	0.06	**0.11**	0.19	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*
MW130	13 Jun 2023	0382_MW130_230613	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.03	0.05	**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*
MW130	13 Jun 2023	0382_QC100_230613	Field_D	NSW_0382_PFASOMP_23	*<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*
MW130	13 Jun 2023	0382_QC200_230613	Interlab_D	NSW_0382_PFASOMP_23	*<0.01*	*<0.01*	0.03	0.03	0.03	*<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*
MW131	17 Jul 2018	0382_MW131_180717	Normal	NSW_0382_PFAS	*<0.01*	*<0.01*	0.01	0.01	*<0.1*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
MW131	01 Oct 2020	0382_MW131_201001	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.08	0.03	**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*
MW131	03 Dec 2020	0382_MW131_201203	Normal	NSW_0382_PFASOMP_20	*<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*
MW131	25 Mar 2021	0382_MW131_210325	Normal	NSW_0382_PFASOMP_20	*<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*
MW131	07 Jun 2021	0382_MW131_210607	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.06	*<0.02*	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*
MW131	07 Jun 2021	0382_QC200_210607	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	0.078	*<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*
MW131	07 Sep 2021	0382_MW131_210907	Normal	NSW_0382_PFASOMP_20	*<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*
MW131	06 Dec 2021	0382_MW131_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.03	0.01	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*
MW131	06 Dec 2021	0382_QC200_211206	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	0.02	*<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*
MW131	23 Mar 2022	0382_MW131_220323	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.06	0.02	**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*
MW131	15 Jun 2022	0382_MW131_220615	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.09	0.02	**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*
MW131	05 Sep 2022	0382_MW131_220905	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.05	0.02	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*
MW131	05 Sep 2022	0382_QC201_2209	Interlab_D	NSW_0382_PFASOMP_20	*<0.01*	0.03	0.01	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*
MW131	05 Dec 2022	0382_MW131_221205	Normal	NSW_0382_PFASOMP_20	*<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*
MW131	13 Mar 2023	0382_MW131_230313	Normal	NSW_0382_PFASOMP_23	0.01	*0.19*	0.04	**0.23**	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*
MW131	13 Mar 2023	0382_QC100_230313	Field_D	NSW_0382_PFASOMP_23	*<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*
MW131	13 Mar 2023	0382_QC200_230313	Interlab_D	NSW_0382_PFASOMP_23	*<0.01*	0.1	0.03	**0.13**	0.14	*<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*

Table T6 - Groundwater Historical 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	0.002	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 95%							*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
MW131	13 Jun 2023	0382_MW131_230613	Normal	NSW_0382_PFASOMP_23			*<0.01*	*0.40*	0.04	**0.44**	0.44	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<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 - Groundwater Historical 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 Drinking Water				**0.56**			**0.07**																											
PFAS NEMP 2020 Freshwater 95%				*220*	*0.13*																													
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW133	07 Sep 2021	0382_MW133_210907	Normal	NSW_0382_PFASOMP_20	0.05	*4.06*	1.58	**5.64**	9.19	0.41	0.12	0.07	*<0.02*	0.6	0.45	1.81	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*
MW133	06 Dec 2021	0382_MW133_211206	Normal	NSW_0382_PFASOMP_20	**2.88**	*168*	22.0	**190**	208	1.15	0.97	6.37	*<0.04*	1.0	0.92	4.82	0.36	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.10*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.04*	*<0.10*	*<0.04*	*<0.10*	*<0.10*	*<0.04*	*<0.10*
MW133	23 Mar 2022	0382_MW133_220323	Normal	NSW_0382_PFASOMP_20	0.03	*2.59*	1.84	**4.43**	5.92	0.22	0.26	0.03	*<0.02*	0.1	0.29	0.53	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*
MW133	15 Jun 2022	0382_MW133_220615	Normal	NSW_0382_PFASOMP_20	**4.80**	*765*	42.7	**808**	848	2.58	3.78	12.7	*<0.05*	1.6	2.54	10.9	0.84	0.07	*<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*
MW133	05 Sep 2022	0382_MW133_220905	Normal	NSW_0382_PFASOMP_20	**3.39**	*530*	31.3	**561**	588	1.32	2.71	10.7	*<0.05*	1.2	1.40	5.94	0.50	*<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*
MW133	05 Dec 2022	0382_MW133_221205	Normal	NSW_0382_PFASOMP_20	**2.69**	*1,030*	29.5	**1,060**	1,090	1.30	3.34	11.1	*<0.02*	0.9	1.44	7.76	0.43	0.06	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW133	13 Mar 2023	0382_MW133_230313	Normal	NSW_0382_PFASOMP_23	**4.12**	*666*	33.8	**700**	740	2.05	3.08	17.3	*<0.05*	1.7	2.08	8.92	0.69	0.10	*<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*
MW133	13 Jun 2023	0382_MW133_230613	Normal	NSW_0382_PFASOMP_23	**3.44**	*536*	32.2	**568**	600	1.78	2.53	13.3	*<0.02*	1.3	1.68	7.65	0.56	0.06	*<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*
MW134	25 Mar 2021	0382_MW134P_210325	Normal	NSW_0382_PFASOMP_20	0.02	*0.41*	0.48	**0.89**	1.77	0.10	0.07	*<0.02*	0.07	0.2	0.16	0.26	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW134	25 Mar 2021	0382_QC200_210325	Interlab_D	NSW_0382_PFASOMP_20	0.018	*0.35*	0.38	-	-	0.085	0.062	*<0.01*	*<0.01*	0.17	0.13	0.17	0.011	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.02*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.02*	*<0.01*	*<0.05*	*<0.02*	*<0.01*	*<0.05*
MW134	07 Jun 2021	0382_MW134_210607	Normal	NSW_0382_PFASOMP_20	0.03	*0.44*	1.16	**1.60**	2.82	0.23	0.26	0.02	*<0.02*	0.1	0.16	0.42	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW134	15 Jun 2022	0382_MW134_220615	Normal	NSW_0382_PFASOMP_20	0.02	*0.52*	1.04	**1.56**	3.29	0.31	0.24	*<0.02*	*<0.02*	0.3	0.28	0.56	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW134	05 Sep 2022	0382_MW134_220905	Normal	NSW_0382_PFASOMP_20	0.02	*0.36*	0.95	**1.31**	2.92	0.22	0.23	*<0.02*	*<0.02*	0.3	0.29	0.55	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW134	05 Dec 2022	0382_MW134_221205	Normal	NSW_0382_PFASOMP_20	0.02	*0.29*	0.87	**1.16**	2.56	0.20	0.19	0.02	*<0.02*	0.2	0.25	0.52	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW134	13 Mar 2023	0382_MW134_230313	Normal	NSW_0382_PFASOMP_23	0.02	*0.32*	0.63	**0.95**	2.08	0.16	0.14	*<0.02*	*<0.02*	0.2	0.18	0.43	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW136	18 Dec 2020	0382_MW136_201218	Normal	NSW_0382_PFAS	*<0.002*	0.016	0.016	0.032	0.129	0.008	0.004	*<0.002*	*<0.002*	*<0.01*	*<0.002*	0.003	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.005*	*<0.005*	0.082	*<0.005*	*<0.005*	*<0.002*	*<0.005*	*<0.002*	*<0.005*	*<0.005*	*<0.002*	*<0.005*
MW136	07 Jun 2021	0382_MW136_210607	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.11	0.04	**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*
MW136	07 Sep 2021	0382_MW136_210907	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.04	0.11	**0.15**	0.29	0.06	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*
MW136	06 Dec 2021	0382_MW136_211206	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.05	0.08	**0.13**	0.24	0.06	0.03	*<0.02*	*<0.02*	*<0.1*	*<0.02*	0.02	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW136	23 Mar 2022	0382_MW136_220323	Normal	NSW_0382_PFASOMP_20	0.02	0.03	0.30	**0.33**	0.74	0.08	0.06	*<0.02*	*<0.02*	0.1	0.03	0.12	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW136	15 Jun 2022	0382_MW136_220615	Normal	NSW_0382_PFASOMP_20	0.03	0.06	0.64	**0.70**	1.33	0.18	0.16	*<0.02*	*<0.02*	*<0.1*	0.05	0.21	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*
MW136	15 Jun 2022	0382_QC200_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.46	**0.51**	0.99	0.13	0.13	*<0.01*	*<0.02*	0.03	0.03	0.12	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*
MW136	05 Sep 2022	0382_MW136_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.08	0.32	**0.40**	0.63	0.07	0.08	*<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*
MW136	05 Dec 2022	0382_MW136_221205	Normal	NSW_0382_PFASOMP_20	*<0.01*	0.11	0.20	**0.31**	0.50	0.07	0.06	*<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*
MW136	13 Mar 2023	0382_MW136_230313	Normal	NSW_0382_PFASOMP_23	*<0.01*	0.09	0.16	**0.25**	0.42	0.06	0.05	*<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*
MW136	13 Jun 2023	0382_MW136_230613	Normal	NSW_0382_PFASOMP_23	0.01	*0.23*	0.15	**0.38**	0.55	0.07	0.05	*<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*

Table T6 - Groundwater Historical 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 95%	*220*	*0.13*																												

Location Code	Date	Field ID	Sample Type	Project ID

Notes

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

Table T7 - Surface Water Historical 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	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Recreational Water				**10**			**2**																										
PFAS NEMP 2020 Freshwater 95%				*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																													
SW001	15 Mar 2018	0382_SW001_180315	Normal	NSW_0382_PFAS	0.86	*3.9*	6.9	**10.8**	18.04	0.36	1.0	0.36	0.04	0.41	0.92	2.7	0.45	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW001	25 Mar 2021	0382_SW001_210325	Normal	NSW_0382_PFASOMP_20	0.03	*0.65*	0.58	1.23	1.62	0.04	0.04	<0.02	<0.02	<0.1	0.09	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Jun 2021	0382_SW001_210607	Normal	NSW_0382_PFASOMP_20	<0.01	0.13	0.06	0.19	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Sep 2021	0382_SW001_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.09	0.04	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
SW001	06 Dec 2021	0382_SW001_211206	Normal	NSW_0382_PFASOMP_20	0.05	*0.76*	0.50	1.26	1.80	0.06	0.04	0.02	<0.02	<0.1	0.12	0.22	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
SW001	06 Dec 2021	0382_QC101_211206	Field_D	NSW_0382_PFASOMP_20	0.04	*0.72*	0.49	1.21	1.72	0.05	0.04	0.02	<0.02	<0.1	0.11	0.22	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
SW001	23 Mar 2022	0382_SW001_220323	Normal	NSW_0382_PFASOMP_20	0.02	*0.27*	0.15	0.42	0.49	<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
SW001	15 Jun 2022	0382_SW001_220615	Normal	NSW_0382_PFASOMP_20	0.07	*2.06*	0.67	**2.73**	3.47	0.07	0.06	0.04	<0.02	<0.1	0.09	0.24	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Sep 2022	0382_SW001_220905	Normal	NSW_0382_PFASOMP_20	0.02	*0.87*	0.15	1.02	1.15	<0.02	<0.02	<0.02	0.03	<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	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Dec 2022	0382_SW001_221205	Normal	NSW_0382_PFASOMP_20	0.04	*1.04*	0.35	1.39	1.80	0.03	0.04	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	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	15 Mar 2023	0382_SW001_230315	Normal	NSW_0382_PFASOMP_23	0.01	*0.26*	0.12	0.38	0.45	<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
SW059	01 Mar 2018	0382_SW059_180301	Normal	NSW_0382_PFAS	0.02	0.07	0.06	0.13	0.18	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW059	30 Sep 2020	0382_SW059_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.11	0.07	0.18	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	03 Dec 2020	0382_SW059_201203	Normal	NSW_0382_PFASOMP_20	0.02	0.08	0.05	0.13	0.18	<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
SW059	25 Mar 2021	0382_SW059_210325	Normal	NSW_0382_PFASOMP_20	0.01	0.11	0.07	0.18	0.22	<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
SW059	07 Jun 2021	0382_SW059_210607	Normal	NSW_0382_PFASOMP_20	0.01	0.09	0.05	0.14	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
SW059	07 Sep 2021	0382_SW059_210907	Normal	NSW_0382_PFASOMP_20	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	07 Sep 2021	0382_QC203_210907	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.05	0.04	0.09	0.09	<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
SW059	06 Dec 2021	0382_SW059_211206	Normal	NSW_0382_PFASOMP_20	<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
SW059	06 Dec 2021	0382_QC201_211206	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.07	0.04	0.11	0.13	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW059	23 Mar 2022	0382_SW059_220323	Normal	NSW_0382_PFASOMP_20	0.01	*0.15*	0.06	0.21	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
SW059	15 Jun 2022	0382_SW059_220615	Normal	NSW_0382_PFASOMP_20	0.02	*0.16*	0.16	0.32	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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
SW059	15 Jun 2022	0382_QC101_220615	Field_D	NSW_0382_PFASOMP_20	0.02	0.13	0.14	0.27	0.36	<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
SW059	05 Sep 2022	0382_SW059_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.06	0.05	0.11	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Sep 2022	0382_QC102_220905	Field_D	NSW_0382_PFASOMP_20	0.01	0.06	0.04	0.10	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
SW059	05 Dec 2022	0382_SW059_221205	Normal	NSW_0382_PFASOMP_20	<0.01	0.10	0.05	0.15	0.17	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	13 Mar 2023	0382_SW059_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.08	0.05	0.13	0.21	<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
SW059	13 Mar 2023	0382_QC101_230313	Field_D	NSW_0382_PFASOMP_23	<0.01	0.06	0.04	0.10	0.13	<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
SW059	13 Mar 2023	0382_QC201_230313	Interlab_D	NSW_0382_PFASOMP_23	0.02	0.07	0.05	0.13	0.21	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	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
SW059	13 Jun 2023	0382_SW059_230613	Normal	NSW_0382_PFASOMP_23	0.01	0.08	0.07	0.15	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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
SW111	30 Sep 2020	0382_SW111_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.10	0.05	0.15	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	03 Dec 2020	0382_SW111_201203	Normal	NSW_0382_PFASOMP_20	0.02	0.07	0.05	0.12	0.17	<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
SW111	03 Dec 2020	0382_QC101_201203	Field_D	NSW_0382_PFASOMP_20	0.02	0.08	0.05	0.13	0.18	<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
SW111	03 Dec 2020	0382_QC201_201203	Interlab_D	NSW_0382_PFASOMP_20	0.018	0.084	0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.022	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	<0.02	<0.01	<0.05
SW111	25 Mar 2021	0382_SW111_210325	Normal	NSW_0382_PFASOMP_20	0.06	*1.42*	1.03	**2.45**	3.23	0.09	0.08	0.04	<0.02	<0.1	0.13	0.35	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
SW111	07 Jun 2021	0382_SW111_210607	Normal	NSW_0382_PFASOMP_20	0.07	*1.93*	0.90	**2.83**	3.41	0.06	0.08	0.04	<0.02	<0.1	0.05	0.20	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	07 Sep 2021	0382_SW111_210907	Normal	NSW_0382_PFASOMP_20	0.04	*1.01*	0.73	1.74	2.18	0.05	0.06	0.03	<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
SW111	06 Dec 2021	0382_SW111_211206	Normal	NSW_0382_PFASOMP_20	0.01	0.06	0.03	0.09	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
SW111	23 Mar 2022	0382_SW111_220323	Normal	NSW_0382_PFASOMP_20	0.01	0.05	0.03	0.08	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	15 Jun 2022	0382_SW111_220615	Normal	NSW_0382_PFASOMP_20	0.02	0.08	0.06	0.14	0.19	<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
SW111	15 Jun 2022	0382_QC201_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.05	0.1	0.14	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW111	05 Sep 2022	0382_SW111_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	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
SW111	05 Sep 2022	0382_QC202_2209	Interlab_D	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	0.1	<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	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW111	05 Dec 2022	0382_SW111_221205	Normal	NSW_0382_PFASOMP_20	<0.01	*0.16*	0.08	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
SW111	13 Mar 2023	0382_SW111_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.09	0.05	0.14	0.18	<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

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	01-8142
Client Name	[redacted]
Project Number	60612562_6.1

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	William Pak
Calibration Date	06/06/2023
Calibration Due	06/12/2023

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:
admin@wamscientific.com.au
accounts@wamscientific.com.au
sales@wamscientific.com.au
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 Pro Quatro Water Quality Meter w/ 1m Quatro Cable
Serial Number	23A107176
Client Name	[redacted]
Project Number	60612562_6.1
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.	14.3	14.0	14.3	°C
pH	pH 4.00	386466	4.01	4.05	4.01	pH
pH	pH 7.00	387329	7.00	7.04	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	3115	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	255.3	239.3	255.3	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-0.8	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	96.6	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	William Pak
Calibration Date	07/06/2023
Calibration Due	07/12/2023

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

ANZ

AECOM

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP PFAS	**Project Number:**	60612562
Project Location:	[redacted]	**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 Pro Plus
Serial Number:	23A107176

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/6/23				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.0	7.0	2444	0.0	
Calibration Reading:	4.1	7.2	2460	0.0	
Calibration Temperature:	19.1	19.2	19.1	19.1	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

13/6/23
Date

Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	[redacted]	Date:	27/06/2023
Client:	Department of Defence	Data verified by:		Date:	13/07/2023
Site:	Holsworthy Barracks	Project Manager:			
Matrix type:	Groundwater and Surface Water				
Primary samples:	11 Groundwater samples and 1 Surface Water sample				
Laboratory:	Primary: ALS Secondary: Envirolab				
Lab reference:	ES2319522 (ALS), 325510 (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 by [redacted] on 13/06/2023. Field personnel were both suitably qualified and experienced AECOM Environmental Scientists and Engineers.
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 where equipment was re-used and decontaminated between sample points (a total of 1 rinsate blank sample was 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 a frequency greater than one in ten primary samples (10%), exceeding the DQI. In total, 2 field duplicates and 2 field triplicates were collected (13.3%) for 15 primary water samples.
Handling and preservation	All samples were received by the primary laboratory in appropriate containers, with ice present and at 4.5 °C, within the recommended temperature range (<6°C). All samples were received by the secondary laboratory in appropriate containers, with ice and at 18°C, outside the recommended temperature range (<6°C). Given that the laboratory reported the cooling media was ice and that the analytical groups tested are of non-volatile nature, AECOM considers that the temperature anomaly is not significant..
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.

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, 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.
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 • ES2319522: Perfluorohexane sulfonic acid (PFHxS), 0382_MW112P_230613 • ES2319522: Perfluorooctane sulfonic acid (PFOS), 0382_MW112P_230613 • ES2319522: Perfluorohexanoic acid (PFHxA), 0382_MW112P_230613P These non-determinations were 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.

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 identification of a new exceedance of the NEMP Ecological Screening Criteria for PFOS at MW136, which was reported outside of the historical range, the primary laboratory was requested to repeat the analysis to confirm the reported concentrations. The repeat analysis confirmed the originally reported concentrations.

DATA VALIDATION REPORT	
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>Inter-laboratory duplicates (Field Triplicates) RPDs</u> MW119/QC201 - Perfluorooctanoic acid (PFOA): 31% - Perfluorohexane sulfonic acid (PFHxS): 34% - Perfluoropentane sulfonic acid (PFPeS): 37% - Perfluoroheptane sulfonic acid (PFHpS): 52% The elevated RPDs for groundwater duplicate pairs either had concentrations < 10 x LOR or within the same order of magnitude, and are not considered to significantly impact the interpretation of results. Where required for quantitative purposes, the highest concentrations from the primary and duplicate pairs were 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 – Rinsate Blank Results

Table D1 - Water Duplicate RPDs

Lab Report Number			ES2319522	ES2319522		ES2319522	325510		ES2319522	ES2319522	
Field ID			0382_MW130_230613	0382_QC100_230613		0382_MW130_230613	0382_QC200_230613		0382_MW119_230613	0382_QC101_230613	
Matrix Type			Water	Water		Water	Water		Water	Water	
Date			13 Jun 2023	13 Jun 2023	RPD (%)	13 Jun 2023	13 Jun 2023	RPD (%)	13 Jun 2023	13 Jun 2023	RPD (%)
	Unit	LOR									
PFAS											
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	nc	<0.01	<0.01	nc	0.82	0.79	4
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.03	0.02	40	0.03	<0.01	nc	32.5	30.0	8
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.05	0.03	50	0.05	0.03	50	13.6	12.8	6
Sum of PFHxS and PFOS	µg/L	0.01	0.08	0.05	46	0.08	0.03	91	46.1	42.8	7
Sum of PFAS	µg/L	0.01	0.08	0.05	46	0.08	0.03	91	56.5	52.9	7
PFAS - Perfluoroalkyl Sulfonic Acids											
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	1.51	1.47	3
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	2.17	2.01	8
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	0.75	0.68	10
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<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	0.7	0.7	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	0.82	0.82	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	3.23	3.17	2
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	0.44	0.42	5
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<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
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.02	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	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	<0.01	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	<0.01	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	<0.02	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	<0.02	nc	<0.05	<0.05	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
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<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
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<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
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
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	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 D1 - Water Duplicate RPDs

		Lab Report Number	ES2319522	325510	
		Field ID	0382_MW119_230613	0382_QC201_230613	
		Matrix Type	Water	Water	
		Date	13 Jun 2023	13 Jun 2023	RPD (%)
	Unit	LOR			
PFAS					
Perfluorooctanoic acid (PFOA)	µg/L	0.01	0.82	0.60	**31**
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	32.5	24	30
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	13.6	9.6	**34**
Sum of PFHxS and PFOS	µg/L	0.01	46.1	33	**33**
Sum of PFAS	µg/L	0.01	56.5	41	**32**
PFAS - Perfluoroalkyl Sulfonic Acids					
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	1.51	1.2	23
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	2.17	1.5	**37**
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.75	0.44	**52**
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	nc
PFAS - Perfluoroalkyl Carboxylic Acids					
Perfluorobutanoic acid (PFBA)	µg/L	0.02	0.7	0.52	30
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.82	0.63	26
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	3.23	2.6	22
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.44	0.34	26
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	0.01	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	nc
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<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	<0.01	nc
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01	<0.05	0.01	nc
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.02	<0.05	<0.02	nc
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides					
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.1	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.1	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<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 - Rinsate Blank Results

		Lab Report Number	ES2319522
		Field ID	0382_QC300_230613
		Matrix Type	Water
		Date	13 Jun 2023
	Unit	LOR	
PFAS			
Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.01
PFAS - Perfluoroalkyl Sulfonic Acids			
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02
PFAS - Perfluoroalkyl Carboxylic Acids			
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05
PFAS - (n:2) Fluorotelomer Sulfonic Acids			
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05
PFAS - Perfluoroalkyl Sulfonamides			
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05

Notes
LOR = Limit of Reporting

Appendix E

Laboratory Certificates

CERTIFICATE OF ANALYSIS

Work Order	: **ES2319522**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Jun-2023 14:00
Order number	: 60612562_6.1	Date Analysis Commenced	: 13-Jun-2023
C-O-C number	: 53302	Issue Date	: 16-Jun-2023 18:11
Sampler	: [redacted]		
Site	: 0382_Holsworthy		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 14		
No. of samples analysed	: 14		

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	0382_MW112_230613	0382_MW112P_230613	0382_MW113_230613	0382_MW119_230613	0382_MW119P_230613
				Sampling date / time	13-Jun-2023 09:47	13-Jun-2023 09:52	13-Jun-2023 09:30	13-Jun-2023 10:19	13-Jun-2023 10:09
Compound	CAS Number	LOR	Unit		ES2319522-001	ES2319522-002	ES2319522-003	ES2319522-004	ES2319522-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**3.03**	**0.20**	**51.5**	**1.51**	**2.94**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**4.11**	**0.32**	**58.0**	**2.17**	**5.09**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**36.0**	**4.55**	**384**	**13.6**	**55.2**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**2.62**	**0.38**	**34.7**	**0.75**	**6.43**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**26.8**	**27.7**	**376**	**32.5**	**178**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.10**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.5**	**0.2**	**7.6**	**0.7**	**0.5**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.79**	**0.22**	**15.3**	**0.82**	**1.00**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**4.41**	**1.02**	**70.8**	**3.23**	**6.24**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.84**	**0.10**	**11.8**	**0.44**	**1.17**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**2.19**	**0.30**	**26.3**	**0.82**	**4.37**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.17**	<0.02	**0.06**
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	0382_MW112_230613	0382_MW112P_230613	0382_MW113_230613	0382_MW119_230613	0382_MW119P_230613
				Sampling date / time	13-Jun-2023 09:47	13-Jun-2023 09:52	13-Jun-2023 09:30	13-Jun-2023 10:19	13-Jun-2023 10:09
Compound	CAS Number	LOR	Unit		ES2319522-001	ES2319522-002	ES2319522-003	ES2319522-004	ES2319522-005
					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	**5.63**	<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		**81.3**	**35.0**	**1040**	**56.5**	**261**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**62.8**	**32.2**	**760**	**46.1**	**233**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**74.6**	**34.3**	**949**	**53.6**	**250**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**93.4**	**99.5**	**85.7**	**96.2**	**92.2**
13C8-PFOA	----	0.02	%		**100**	**100**	**96.5**	**99.2**	**99.6**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW129_230613	0382_MW130_230613	0382_MW131_230613	0382_MW133_230613	0382_MW136_230613
				Sampling date / time	13-Jun-2023 10:57	13-Jun-2023 08:36	13-Jun-2023 09:02	13-Jun-2023 08:51	13-Jun-2023 09:13
Compound	CAS Number	LOR	Unit		ES2319522-006	ES2319522-007	ES2319522-008	ES2319522-009	ES2319522-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**1.78**	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**2.53**	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.05**	**0.04**	**32.2**	**0.15**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**13.3**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.04**	**0.03**	**0.40**	**536**	**0.23**
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	**1.3**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	**1.68**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**7.65**	**0.04**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.56**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**3.44**	**0.01**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.06**	<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	0382_MW129_230613	0382_MW130_230613	0382_MW131_230613	0382_MW133_230613	0382_MW136_230613
				Sampling date / time	13-Jun-2023 10:57	13-Jun-2023 08:36	13-Jun-2023 09:02	13-Jun-2023 08:51	13-Jun-2023 09:13
Compound	CAS Number	LOR	Unit		ES2319522-006	ES2319522-007	ES2319522-008	ES2319522-009	ES2319522-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**0.06**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.04**	**0.08**	**0.44**	**600**	**0.55**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.04**	**0.08**	**0.44**	**568**	**0.38**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.04**	**0.08**	**0.44**	**585**	**0.50**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.9**	**96.2**	**102**	**89.2**	**93.9**
13C8-PFOA	----	0.02	%		**101**	**101**	**101**	**97.5**	**104**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_QC100_230613	0382_QC101_230613	----	----	----
				Sampling date / time	13-Jun-2023 08:36	13-Jun-2023 10:20	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-012	ES2319522-013	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**1.47**	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**2.01**	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.03**	**12.8**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.68**	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	**30.0**	----	----	----
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	**0.7**	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.82**	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**3.17**	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.42**	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.79**	----	----	----
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	0382_QC100_230613	0382_QC101_230613	----	----	----
				Sampling date / time	13-Jun-2023 08:36	13-Jun-2023 10:20	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-012	ES2319522-013	--------	--------	--------
					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		**0.05**	**52.9**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.05**	**42.8**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.05**	**50.2**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.8**	**94.1**	----	----	----
13C8-PFOA	----	0.02	%		**100**	**99.9**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0382_QC300_230613	----	----	----	----
				Sampling date / time	13-Jun-2023 11:10	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-014	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0382_QC300_230613	----	----	----	----
				Sampling date / time	13-Jun-2023 11:10	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-014	--------	--------	--------	--------
					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	%		**90.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**103**	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW059_230613	----	----	----	----
				Sampling date / time	13-Jun-2023 11:07	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-011	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.07**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.08**	----	----	----	----
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		**0.03**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW059_230613	----	----	----	----
				Sampling date / time	13-Jun-2023 11:07	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2319522-011	--------	--------	--------	--------
					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		**0.23**	----	----	----	----
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		**0.23**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.3**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.5**	----	----	----	----

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2319522**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Jun-2023
Site	: 0382_Holsworthy	Issue Date	: 16-Jun-2023
Sampler	: [redacted]	No. of samples received	: 14
Order number	: 60612562_6.1	No. of samples analysed	: 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2319522--002	0382_MW112P_230613	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2319522--002	0382_MW112P_230613	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2319522--002	0382_MW112P_230613	**Perfluorohexanoic acid (PFHxA)**	307-24-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0382_MW112_230613,	0382_MW112P_230613,	**13-Jun-2023**	**15-Jun-2023**	10-Dec-2023	✓	**16-Jun-2023**	10-Dec-2023	✓
0382_MW113_230613,	0382_MW119_230613,							
0382_MW119P_230613,	0382_MW129_230613,							
0382_MW130_230613,	0382_MW131_230613,							
0382_MW133_230613,	0382_MW136_230613,							
0382_SW059_230613,	0382_QC100_230613,							
0382_QC101_230613,	0382_QC300_230613							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0382_MW112_230613,	0382_MW112P_230613,	**13-Jun-2023**	**15-Jun-2023**	10-Dec-2023	✓	**16-Jun-2023**	10-Dec-2023	✓
0382_MW113_230613,	0382_MW119_230613,							
0382_MW119P_230613,	0382_MW129_230613,							
0382_MW130_230613,	0382_MW131_230613,							
0382_MW133_230613,	0382_MW136_230613,							
0382_SW059_230613,	0382_QC100_230613,							
0382_QC101_230613,	0382_QC300_230613							

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)								
0382_MW112_230613,	0382_MW112P_230613,	**13-Jun-2023**	**15-Jun-2023**	10-Dec-2023	✓	**16-Jun-2023**	10-Dec-2023	✓
0382_MW113_230613,	0382_MW119_230613,							
0382_MW119P_230613,	0382_MW129_230613,							
0382_MW130_230613,	0382_MW131_230613,							
0382_MW133_230613,	0382_MW136_230613,							
0382_SW059_230613,	0382_QC100_230613,							
0382_QC101_230613,	0382_QC300_230613							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0382_MW112_230613,	0382_MW112P_230613,	**13-Jun-2023**	**15-Jun-2023**	10-Dec-2023	✓	**16-Jun-2023**	10-Dec-2023	✓
0382_MW113_230613,	0382_MW119_230613,							
0382_MW119P_230613,	0382_MW129_230613,							
0382_MW130_230613,	0382_MW131_230613,							
0382_MW133_230613,	0382_MW136_230613,							
0382_SW059_230613,	0382_QC100_230613,							
0382_QC101_230613,	0382_QC300_230613							
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0382_MW112_230613,	0382_MW112P_230613,	**13-Jun-2023**	**15-Jun-2023**	10-Dec-2023	✓	**16-Jun-2023**	10-Dec-2023	✓
0382_MW113_230613,	0382_MW119_230613,							
0382_MW119P_230613,	0382_MW129_230613,							
0382_MW130_230613,	0382_MW131_230613,							
0382_MW133_230613,	0382_MW136_230613,							
0382_SW059_230613,	0382_QC100_230613,							
0382_QC101_230613,	0382_QC300_230613							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

QUALITY CONTROL REPORT

Work Order	: **ES2319522**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Jun-2023
Order number	: 60612562_6.1	Date Analysis Commenced	: 13-Jun-2023
C-O-C number	: 53302	Issue Date	: 16-Jun-2023
Sampler	: [redacted]		
Site	: 0382_Holsworthy		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 14		
No. of samples analysed	: 14		

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: 5109751)									
ES2319522-001	0382_MW112_230613	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	36.0	39.7	9.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	26.8	27.0	0.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.03	3.18	4.7	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	4.11	4.42	7.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.62	2.72	3.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2319522-011	0382_SW059_230613	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.07	0.06	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: 5109751)									
ES2319522-001	0382_MW112_230613	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.19	2.37	7.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.79	0.86	8.4	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.41	4.89	10.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.84	0.88	5.6	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	0.6	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: 5109751) - continued									
ES2319522-011	0382_SW059_230613	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.05	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5109751)									
ES2319522-001	0382_MW112_230613	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
ES2319522-011	0382_SW059_230613	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: 5109751)									
ES2319522-001	0382_MW112_230613	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: 5109751) - continued									
ES2319522-001	0382_MW112_230613	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
ES2319522-011	0382_SW059_230613	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: 5109751)									
ES2319522-001	0382_MW112_230613	EP231X: Sum of PFAS	----	0.01	µg/L	81.3	86.6	6.3	0% - 20%
ES2319522-011	0382_SW059_230613	EP231X: Sum of PFAS	----	0.01	µg/L	0.23	0.23	0.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5109751)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	99.2	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	97.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	108	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	118	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5109751)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	105	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	122	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	125	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	105	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	103	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5109751)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.3	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	95.0	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	107	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5109751)								

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: 5109751) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	110	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	125	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	97.2	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: 5109751)							
ES2319522-002	0382_MW112P_230613	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	98.6	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	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	93.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5109751)							
ES2319522-002	0382_MW112P_230613	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	101	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	110	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	114	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	122	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	95.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	104	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	105	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5109751)							
ES2319522-002	0382_MW112P_230613	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	88.9	68.0	141

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5109751) - continued							
ES2319522-002	0382_MW112P_230613	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.0	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	94.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	100	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5109751)							
ES2319522-002	0382_MW112P_230613	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	112	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	114	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	113	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	82.4	71.4	144

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2319522**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: NSW_0382_PFASOMP_23	Page	: 1 of 3
Order number	: 60612562_6.1	Quote number	: ES2021AECOMAU0028 (SY/139/19 v4 60612562_6.1)
C-O-C number	: 53302	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0382_Holsworthy		
Sampler	: [redacted]		

Dates

Date Samples Received	: 13-Jun-2023 14:00	Issue Date	: 13-Jun-2023
Client Requested Due Date	: 19-Jun-2023	Scheduled Reporting Date	: **19-Jun-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 14 / 14

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)
ES2319522-001	13-Jun-2023 09:47	0382_MW112_230613	✓
ES2319522-002	13-Jun-2023 09:52	0382_MW112P_230613	✓
ES2319522-003	13-Jun-2023 09:30	0382_MW113_230613	✓
ES2319522-004	13-Jun-2023 10:19	0382_MW119_230613	✓
ES2319522-005	13-Jun-2023 10:09	0382_MW119P_230613	✓
ES2319522-006	13-Jun-2023 10:57	0382_MW129_230613	✓
ES2319522-007	13-Jun-2023 08:36	0382_MW130_230613	✓
ES2319522-008	13-Jun-2023 09:02	0382_MW131_230613	✓
ES2319522-009	13-Jun-2023 08:51	0382_MW133_230613	✓
ES2319522-010	13-Jun-2023 09:13	0382_MW136_230613	✓
ES2319522-011	13-Jun-2023 11:07	0382_SW059_230613	✓
ES2319522-012	13-Jun-2023 08:36	0382_QC100_230613	✓
ES2319522-013	13-Jun-2023 10:20	0382_QC101_230613	✓
ES2319522-014	13-Jun-2023 11:10	0382_QC300_230613	✓

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]

CHAIN OF CUSTODY

COC#: 53302 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/6/23 14:30	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382_Holsworthy

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_MW112_230613		13/06/2023 09:47 AM	WATER	ALS: 4 Non ALS: 0	No	X		
002	0382_MW112P_230613		13/06/2023 09:52 AM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0382_MW113_230613		13/06/2023 09:30 AM	WATER	ALS: 4 Non ALS: 0	No	X		
004	0382_MW119_230613		13/06/2023 10:19 AM	WATER	ALS: 4 Non ALS: 0	No	X		
005	0382_MW119P_230613		13/06/2023 10:09 AM	WATER	ALS: 4 Non ALS: 0	No	X		
006	0382_MW129_230613		13/06/2023 10:57 AM	WATER	ALS: 4 Non ALS: 0	No	X		
007	0382_MW130_230613		13/06/2023 08:36 AM	WATER	ALS: 4 Non ALS: 0	No	X		
008	0382_MW131_230613		13/06/2023 09:02 AM	WATER	ALS: 4 Non ALS: 0	No	X		
009	0382_MW133_230613		13/06/2023 08:51 AM	WATER	ALS: 4 Non ALS: 0	No	X		

Environmental Division Sydney

Work Order Reference

ES2319522

[redacted]

CHAIN OF CUSTODY

COC#: 53302 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/6/23 14:00	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382_Holsworthy

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
010	0382_MW136_230613		13/06/2023 09:13 AM	WATER	ALS: 4 Non ALS: 0	No	X		
011	0382_SW059_230613		13/06/2023 11:07 AM	WATER	ALS: 4 Non ALS: 0	No	X		
012	0382_QC100_230613		13/06/2023 08:36 AM	WATER	ALS: 4 Non ALS: 0	No	X		
013	0382_QC101_230613		13/06/2023 10:20 AM	WATER	ALS: 4 Non ALS: 0	No	X		
014	0382_QC300_230613		13/06/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 53302 ALS Laboratory: ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/6/23 14:00	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382_Holsworthy

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_MW112_230613	HDPE (no PTFE)	20 mL	00350822063740	Grey	No	
001	0382_MW112_230613	HDPE (no PTFE)	20 mL	00350822063708	Grey	No	
001	0382_MW112_230613	HDPE (no PTFE)	20 mL	00350822063946	Grey	No	
001	0382_MW112_230613	HDPE (no PTFE)	20 mL	00350822063723	Grey	No	
002	0382_MW112P_230613	HDPE (no PTFE)	20 mL	00350822063850	Grey	No	
002	0382_MW112P_230613	HDPE (no PTFE)	20 mL	00350822063926	Grey	No	
002	0382_MW112P_230613	HDPE (no PTFE)	20 mL	00350822063773	Grey	No	
002	0382_MW112P_230613	HDPE (no PTFE)	20 mL	00350822063976	Grey	No	
003	0382_MW113_230613	HDPE (no PTFE)	20 mL	00350822063949	Grey	No	
003	0382_MW113_230613	HDPE (no PTFE)	20 mL	00350822063974	Grey	No	
003	0382_MW113_230613	HDPE (no PTFE)	20 mL	00350822063944	Grey	No	
003	0382_MW113_230613	HDPE (no PTFE)	20 mL	00350822063827	Grey	No	
004	0382_MW119_230613	HDPE (no PTFE)	20 mL	00350822063662	Grey	No	
004	0382_MW119_230613	HDPE (no PTFE)	20 mL	00350822063933	Grey	No	
004	0382_MW119_230613	HDPE (no PTFE)	20 mL	00350822063611	Grey	No	
004	0382_MW119_230613	HDPE (no PTFE)	20 mL	00350822063639	Grey	No	
005	0382_MW119P_230613	HDPE (no PTFE)	20 mL	00350822063790	Grey	No	
005	0382_MW119P_230613	HDPE (no PTFE)	20 mL	00350822063830	Grey	No	
005	0382_MW119P_230613	HDPE (no PTFE)	20 mL	00350822063666	Grey	No	
005	0382_MW119P_230613	HDPE (no PTFE)	20 mL	00350822063699	Grey	No	
006	0382_MW129_230613	HDPE (no PTFE)	20 mL	00350822063736	Grey	No	
006	0382_MW129_230613	HDPE (no PTFE)	20 mL	00350822063835	Grey	No	
006	0382_MW129_230613	HDPE (no PTFE)	20 mL	00350822063620	Grey	No	
006	0382_MW129_230613	HDPE (no PTFE)	20 mL	00350822063654	Grey	No	
007	0382_MW130_230613	HDPE (no PTFE)	20 mL	00350822063796	Grey	No	
007	0382_MW130_230613	HDPE (no PTFE)	20 mL	00350822063839	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 53302 ALS Laboratory: ES Sydney

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382_Holsworthy

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/6/23 14:05	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU002-8

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:

007	0382_MW130_230613	HDPE (no PTFE)	20 mL	00350822063935	Grey	No	
007	0382_MW130_230613	HDPE (no PTFE)	20 mL	00350822063880	Grey	No	
008	0382_MW131_230613	HDPE (no PTFE)	20 mL	00350822063852	Grey	No	
008	0382_MW131_230613	HDPE (no PTFE)	20 mL	00350822063616	Grey	No	
008	0382_MW131_230613	HDPE (no PTFE)	20 mL	00350822063729	Grey	No	
008	0382_MW131_230613	HDPE (no PTFE)	20 mL	00350822063596	Grey	No	
009	0382_MW133_230613	HDPE (no PTFE)	20 mL	00350822063707	Grey	No	
009	0382_MW133_230613	HDPE (no PTFE)	20 mL	00350822063659	Grey	No	
009	0382_MW133_230613	HDPE (no PTFE)	20 mL	00350822063752	Grey	No	
009	0382_MW133_230613	HDPE (no PTFE)	20 mL	00350822063727	Grey	No	
010	0382_MW136_230613	HDPE (no PTFE)	20 mL	00350822063716	Grey	No	
010	0382_MW136_230613	HDPE (no PTFE)	20 mL	00350822063725	Grey	No	
010	0382_MW136_230613	HDPE (no PTFE)	20 mL	00350822063633	Grey	No	
010	0382_MW136_230613	HDPE (no PTFE)	20 mL	00350822063953	Grey	No	
011	0382_SW059_230613	HDPE (no PTFE)	20 mL	00350822063648	Grey	No	
011	0382_SW059_230613	HDPE (no PTFE)	20 mL	00350822063815	Grey	No	
011	0382_SW059_230613	HDPE (no PTFE)	20 mL	00350822063702	Grey	No	
011	0382_SW059_230613	HDPE (no PTFE)	20 mL	00350822063787	Grey	No	
012	0382_QC100_230613	HDPE (no PTFE)	20 mL	00350822063939	Grey	No	
012	0382_QC100_230613	HDPE (no PTFE)	20 mL	00350822063737	Grey	No	
012	0382_QC100_230613	HDPE (no PTFE)	20 mL	00350822063700	Grey	No	
012	0382_QC100_230613	HDPE (no PTFE)	20 mL	00350822063601	Grey	No	
013	0382_QC101_230613	HDPE (no PTFE)	20 mL	00350822063669	Grey	No	
013	0382_QC101_230613	HDPE (no PTFE)	20 mL	00350822063783	Grey	No	
013	0382_QC101_230613	HDPE (no PTFE)	20 mL	00350822063691	Grey	No	
013	0382_QC101_230613	HDPE (no PTFE)	20 mL	00350822063825	Grey	No	
014	0382_QC300_230613	HDPE (no PTFE)	20 mL	00350822063683	Grey	No	

CHAIN OF CUSTODY

COC#: 53302 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/6/23 14:05	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382_Holsworthy

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

014	0382_QC300_230613	HDPE (no PTFE)	20 mL	00350822063718	Grey	No	
014	0382_QC300_230613	HDPE (no PTFE)	20 mL	00350822063916	Grey	No	
014	0382_QC300_230613	HDPE (no PTFE)	20 mL	00350822063744	Grey	No	

Total Bottle Count: ALS: 56, Non ALS: 0

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
[redacted]

CERTIFICATE OF ANALYSIS 325510

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_0382_PFASOMP_23**
Number of Samples	2 Water
Date samples received	14/06/2023
Date completed instructions received	14/06/2023

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	21/06/2023
Date of Issue	21/06/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
[redacted] Assistant Operation Manager
[redacted] Organics Development Manager, Sydney

Authorised By
[redacted] Laboratory Manager

PFAS in Waters Extended			
Our Reference		325510-1	325510-2
Your Reference	UNITS	0382_QC200_230613	0382_QC201_230613
Date Sampled		13/06/2023	13/06/2023
Type of sample		Water	Water
Date prepared	-	16/06/2023	16/06/2023
Date analysed	-	16/06/2023	16/06/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	1.2
Perfluoropentanesulfonic acid	µg/L	<0.01	1.5
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	9.6
Perfluoroheptanesulfonic acid	µg/L	<0.01	0.44
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	24
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	0.52
Perfluoropentanoic acid	µg/L	<0.02	0.63
Perfluorohexanoic acid	µg/L	<0.01	2.6
Perfluoroheptanoic acid	µg/L	<0.01	0.34
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.60
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*	%	102	96
Surrogate $^{13}C_2$ *PFOA*	%	101	103
Extracted ISTD $^{13}C_3$ *PFBS*	%	90	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	90

PFAS in Waters Extended			
Our Reference		325510-1	325510-2
Your Reference	UNITS	0382_QC200_230613	0382_QC201_230613
Date Sampled		13/06/2023	13/06/2023
Type of sample		Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	91	90
Extracted ISTD $^{13}C_3$ *PFPeA*	%	92	95
Extracted ISTD $^{13}C_2$ *PFHxA*	%	93	94
Extracted ISTD $^{13}C_4$ *PFHpA*	%	90	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	99
Extracted ISTD $^{13}C_5$ *PFNA*	%	92	87
Extracted ISTD $^{13}C_2$ *PFDA*	%	90	96
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	95	102
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	92	96
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	66	78
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	92	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	91	102
Extracted ISTD $^{13}C_8$ *FOSA*	%	94	100
Extracted ISTD d_3 *N MeFOSA*	%	92	100
Extracted ISTD d_5 *N EtFOSA*	%	96	108
Extracted ISTD d_7 *N MeFOSE*	%	90	92
Extracted ISTD d_9 *N EtFOSE*	%	90	96
Extracted ISTD d_3 *N MeFOSAA*	%	92	99
Extracted ISTD d_5 *N EtFOSAA*	%	96	107
Total Positive PFHxS & PFOS	µg/L	0.03	33
Total Positive PFOA & PFOS	µg/L	<0.01	24
Total Positive PFAS	µg/L	0.03	41

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-W1	325510-2
Date prepared	-			16/06/2023	1	16/06/2023	16/06/2023		16/06/2023	16/06/2023
Date analysed	-			16/06/2023	1	16/06/2023	16/06/2023		16/06/2023	16/06/2023
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	99
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	110
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.02	40	101	125
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	##
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	89	90
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	95
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	94
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	96
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	100	98
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	98
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	107
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	102
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	95
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	99	94
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	94
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	102	99
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	103
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	103
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	110
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	112	100
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	105	98
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	107	101
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	96
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	96	95
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	107	105
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	97
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	97
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	100	1	102	97	5	102	99
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	1	101	96	5	101	103

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	325510-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	1	90	102	12	95	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	96	1	90	96	6	93	92
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	1	87	97	11	92	88
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	98	1	91	99	8	98	93
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	99	1	92	100	8	96	98
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	98	1	93	101	8	98	99
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	97	1	90	97	7	95	92
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	93	101	8	97	100
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	98	1	92	98	6	95	83
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	97	1	90	95	5	93	95
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	101	1	95	107	12	101	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	100	1	92	97	5	100	97
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	86	1	66	85	25	85	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	95	1	92	98	6	96	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	100	1	96	98	2	101	103
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	101	1	91	95	4	97	101
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	104	1	94	98	4	96	96
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	100	1	92	103	11	101	98
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	108	1	96	110	14	105	104
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	99	1	90	96	6	103	98

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	325510-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	100	1	90	99	10	98	94
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	105	1	92	101	9	99	101
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	105	1	96	104	8	103	107

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

PFAS: Matrix spike recovery for PFOS on sample 2 could not be determined due to high concentration of the analyte in the sample.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
[redacted]

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	NSW_0382_PFASOMP_23
Envirolab Reference	325510
Date Sample Received	14/06/2023
Date Instructions Received	14/06/2023
Date Results Expected to be Reported	21/06/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	18
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Ice melted

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

[redacted]

Sample ID	AECOM checks	AECOM checks	AECOM checks	AECOM checks	PFAS in Waters Extended
0382_QC200_230613	✓	✓	✓	✓	✓
0382_QC201_230613	✓	✓	✓	✓	✓

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

[Copyright and Confidential]

ENVIROLAB GROUP

[redacted]

Company:	AECOM			Client Project Name/Number/Site etc (ie report title):	
Contact Person:	[redacted]			NSW_0382_PFASOMP_23	
Project Mgr:	[redacted]			PO No. (if applicable):	60612562_5.1
Sampler:	[redacted]			Envirolab Quote No. :	
Address:	Level 6, 420 George St, Sydney, NSW, 2000			Date results required: 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: 1	

Sample information					Tests Required																Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	PFAS Extended Suite - Routine Level																Provide as much information about the sample as you can
1	0382_QC200_230613	x	13/06/2023	Water	X																
2	0382_QC201_230613	x	13/06/2023	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): ELS SYD	Lab Use Only	
Print Name: [redacted]	Print Name: [redacted]	Job number: 325510	Cooling: (Ice) / Ice pack / None (Melted)
Date & Time: 13/6/23	Date & Time: 14/06/23, 1130	Temperature: 18°C	Security seal: Intact / Broken / (None)
Signature: [redacted]	Signature: [redacted]	TAT Req - SAME day / 1 / 2 / 3 / 4 / (STD)	

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

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, September 2023

PFAS OMP - Holsworthy Barracks

26-Mar-2024
Doc No. 20240326_OMP002_HOLS_SamplingEventFactualReport_Rev-0

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Delivering a better world

Sampling Event Factual Report, September 2023

PFAS OMP - Holsworthy Barracks

Client: Department of Defence

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Gadigal Country, Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8008 1700 www.aecom.com
ABN 20 093 846 925

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A	27-Oct-2023	Draft
B	06-Feb-2024	Draft
C	22-Mar-2024	Draft
0	18-Apr-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
LFS	Liverpool Fire Station
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
OMP	Ongoing Monitoring Plan
OMR	Ongoing Monitoring Report
ORP	Oxidation Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic 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
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	MicroSiemens 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 Holsworthy Barracks (hereafter referred to as the 'Site') in the New South Wales (NSW). The location of the Site and surrounding areas is shown in **Figure F1** in **Appendix A**.

The OMP (Defence, 2020a) outlines the sampling requirements for the Site and off-Site areas.

Following each sampling event, factual sampling event reports will be prepared. Ongoing Monitoring Reports will be prepared following the completion of each 12-month sampling period.

This Sampling Event Factual Report has been prepared to report the results of the September 2023 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).

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

1.2 Objectives

The objectives were to:

- implement the OMP (Defence, 2020a) 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, 2020b).

The objective of this phase of works was to implement the scope of works for the September 2023 biannual 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 in general accordance with the SAQP (AECOM, 2023), as follows:

- obtain permission (where required) to conduct works at the Site, off-Site publicly accessible areas, and commercial properties (the Liverpool Fire Station)
- gauging of groundwater level in monitoring wells prior to collection of samples
- groundwater sampling and collection of water quality parameters at 22 of 24 scheduled monitoring wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations)
- surface water sampling and collection of water quality parameters at 13 of 17 scheduled surface water locations (refer to **Table 2** 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
- collection of rinsate blank samples at a rate of 1 per day of sampling per piece of equipment which is decontaminated and re-used between sampling locations
- analysis of samples for PFAS suite 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.

Note: due to privacy considerations, selected monitoring locations are unable to be shown on the figures in **Appendix A**.

Table 1 Groundwater Sampling Locations

On/Off-Site	Area	Sampling Locations	Total
On-Site	Cantonment and Driver Training Area	MW120, MW121, MW122, MW123, MW124, MW323, MW349	7
	Former 85 Transport Area	MW117, MW330	2
	Former STP Area	MW002, MW005, MW301	3
Off-Site	Liverpool Fire Station and surrounds	MW112, MW112P, MW113, MW115*, MW119, MW119P, MW129, MW130, MW131, MW133, MW134*, MW136	12
Total			**24**
* Location not sampled			

Table 2 Surface Water Sampling Locations

On/Off-Site	Area	Sampling Locations	Total
On-Site	Former 85 Transport Area	SW103, SW104, SW105	3
	Luscombe Airfield	SW030*, SW038*	2
Off-Site	Former 85 Transport Area and Georges River	SW025, SW062, SW063	3
	Former STP Area	SW011, SW012, SW014*, SW017	4
	Liverpool Fire Station	SW001, SW059, SW111*	3
	Williams Creek	SW009	1
	Harris Creek	SW015	1
Total			**17**
*Location not sampled			

3.0 Deviations from the SAQP

The September 2023 biannual sampling event was completed in general accordance with the SAQP (AECOM, 2023) with the exception of the deviations outlined in **Table 3** below.

Table 3 Deviations from SAQP (AECOM, 2023)

SAQP Deviation	Comment / Justification	Impact on Dataset
Samples, as well as associated gauging and water quality parameters, were not collected from two of the 24 scheduled groundwater sampling locations.	Groundwater monitoring well MW115 was not accessible due to a demountable building being placed over the well within the Liverpool Fire Station (LFS), and therefore could not be sampled during this sampling event. AECOM understands that this is temporary and will remain for a period of 12 to 18 months (from around December 2022).	The lack of gauging and sampling data for MW115 is not considered to have a significant impact on the dataset, or present a significant data gap, as monitoring well MW113, also located within the LFS, was able to be gauged and sampled. AECOM considers monitoring well MW113 to be representative of PFAS concentrations within the LFS area.
	Groundwater monitoring well MW134 was dry and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for MW134 is not considered to have a significant impact on the dataset, or present a significant data gap, as the well was sampled in March 2023. Furthermore, the well was installed to target discontinuous perched water that is anticipated to contain water during wet periods. As such, the absence of water during this sampling event provides meaningful information for the understanding of the conceptual site model (CSM).
Samples, as well as associated water quality parameters, were not collected from four of the 17 scheduled surface water sampling locations.	Surface water location SW111 was dry and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW111 location is not considered to have a significant impact on the dataset, or present a significant data gap. The dry conditions confirm the pathway linkages between source and receptor for PFAS in surface water were incomplete at the time of sampling.
	Surface water location SW014 was unable to be accessed due to hazard reduction burns and road closures in the surrounding areas and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW014, for an individual sampling event, is not considered to have a significant impact on the dataset or present a significant data gap, as it was sampled in March 2023 and a number of surface water locations upstream of SW014 were sampled near the STP area (SW011, SW012 and SW017).

SAQP Deviation	Comment / Justification	Impact on Dataset
	Surface water locations SW030 and SW038 were unable to be accessed due to hazard reduction burns and therefore could not be sampled during this sampling event.	The lack of sampling data and water quality parameters for SW030 and SW038 is considered a data gap as these are the only locations that target surface water from Luscombe Airfield area. However, it is noted that the water from sample locations SW030 and SW038 flows from the Luscombe Airfield area and discharges into Williams Creek, which is sampled at the point of exit from the Site, at SW009. This location was sampled during this sampling event.

4.0 Methodology

4.1 Sampling Methodology

The methodology used for the September 2023 biannual sampling event was in accordance with the SAQP (AECOM, 2023) and is summarised in **Table 4** below.

Table 4 Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples. Measurements of depth to groundwater were undertaken using an interface probe, which was serviced by the supplier prior to use. The equipment supplier records are provided in **Appendix C**.
Water quality 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. Water quality parameters were collected 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 generally 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, all the HydraSleeves™ were installed during previous biannual or quarterly sampling event in March 2023 and June 2023 respectively. 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. At locations where the HydraSleeves™ failed to deploy, or had been removed prior to the sampling event, AECOM collected groundwater samples using dedicated, disposable bailers. During this sampling event, a bailer was used at MW124, as no HydraSleeve™ was present in the monitoring well when visited during the last day of sampling. **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.

Item	Details
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 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. • *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 September 2023 biannual sampling event, the QA/QC samples included: • 4 x intra-laboratory duplicates (3 x groundwater, 1 x surface water), which met the target frequency • 4 x inter-laboratory duplicates (3 x groundwater, 1 x surface water), which met the target frequency • 3 x rinsate blank, which met the target frequency. The data validation assessment is presented in **Appendix D**.
Sample analysis	Samples were submitted for analysis to the primary and secondary laboratories for PFAS suite 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 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 **Table 5** in below.

Table 5 Summary of Adopted Screening Criteria: Water

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water – groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP (2020) are from the 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 Food Standards Australia New Zealand (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. 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	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. These values were adopted by the HEPA NEMP 2.0 (2020). *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater	PFOS	0.13 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 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. *All groundwater and surface water results were compared to these criteria.*
	PFOA	220 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 (AECOM, 2023). 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.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) 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 September 2023 biannual sampling event completed between 11 and 13 September 2023 are summarised in **Table 6** below.

Table 6 General Observations

Items	Observations
Weather Conditions	During the sampling event, the weather was recorded to be warm, with maximum daily temperatures between 19.7˚C (11 September) and 23.0 ˚C (13 September). No rainfall was recorded at Holsworthy (Holsworthy Aerodrome AWS, 66161) (Bureau of Meteorology, 2021) during the sampling event.
Estate Management Works, Training Activities and/or Construction Works.	During this sampling event, a number of activities impacted the normal sampling program and are detailed as follows: • Hazard reduction burning in selected areas of the Site, mostly south of the Luscombe Airfield, prevented access to sampling locations (namely SW030 and SW038) close to the Luscombe Airfield. Additionally, hazard reduction burning in the wetland reserve area, east of the STP, prevented access to SW014. • Road closures were in place on Heathcote Road between the suburbs of Wattle Grove and Engadine on 13 September 2023 due to a road accident and likely also due to the large smoke plumes generated by the hazard reduction burns. • The STP area was undergoing extensive civil works, involving dredging of the STP ponds. AECOM field team were able to be escorted by the contractor to access sampling locations within the STP area. • Since December 2022, a demountable structure has covered monitoring well MW115, within the LFS. The demountable is understood to be a temporary structure housing the Busby Fire Station for a period of 12 to 18 months (from December 2022), impeding access to MW115 during this period.

5.2 Field Observations and Measurements

The observations and measurements recorded during the field activities for the September 2023 biannual sampling event are summarised in **Table 7**.

Table 7 Field Observations and Measurements

Item	Description
Monitoring Well Network Condition	The wells sampled were observed to be in good condition. It is noted that monitoring wells MW002, MW005 and MW301 have no monument to protect the well casing. Given these wells are located in the STP area where civil works are being conducted, there is potential that the wells may be damaged or destroyed. AECOM will visit these locations during the next biannual sampling event to ascertain their status and condition.
Water Observations	No visible signs of contamination were observed in groundwater and surface water at the locations sampled. No odours were noted in groundwater and surface water at the locations sampled.
Depth to Groundwater and Flow Direction	Depth to groundwater ranged between 1.596 (MW129) and 13.325 (MW117) metres below top of casing (mbTOC). Groundwater elevation ranged between 0.948 (MW005) and 27.953 (MW323) metres Australian Height Datum (mAHD). Groundwater gauging data is presented in **Table T1** in **Appendix B**. **Figures F4-1** to **F4-3** in **Appendix A** provide groundwater elevation contours and inferred groundwater flow direction for the bedrock and the deep alluvial aquifer, and inferred groundwater flow direction for the shallow alluvial aquifer. No elevation contours are presented for the perched water around the LFS (for MW112P, MW119P, MW133 and MW136) due to the discontinuous nature of the perched water in that area. The inferred local groundwater flow direction was predominantly to the northeast across the majority of the Site with flow to the northwest (towards Georges River) at the western boundary in the vicinity of the Former 85 Transport Area (refer to **Figure F4** series in **Appendix A**). Groundwater in the vicinity of the Liverpool Fire Station was generally flat with a slight trend down towards the east and north-east, which is generally consistent with the inferred groundwater flow direction described in the Detailed Site Investigation (CH2M Hill, 2018).
Water Quality Parameters	Groundwater and surface water quality 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 Quality Parameters** • Dissolved oxygen ranged from 0.31 mg/L (MW130) to 6.14 mg/L (MW112) indicating poor to well oxygenated conditions. • Electrical conductivity ranged from 302.4 µS/cm (MW113) to 13,211 µS/cm (MW323) indicating fresh to saline conditions. • pH ranged from 4.11 (MW330) to 7.16 (MW119) indicating acidic to neutral conditions. • Redox (corrected) ranged from 78 mV (MW002) to 555.6 mV (MW330) indicating reducing to oxidising conditions. • Temperature ranged from 14.1˚C (MW301) to 21.5˚C (MW330). **Surface Water Quality Parameters** • Dissolved oxygen ranged from 0.19 mg/L (SW103) to 7.73 mg/L (SW009, SW015) indicating poor to well oxygenated conditions. • Electrical conductivity ranged from 119.6 µS/cm (SW105) to 4,327 µS/cm (SW011) indicating fresh to saline conditions. • pH ranged from 6.52 (SW017) to 7.76 (SW025, SW062) indicating neutral conditions. • Redox (corrected) ranged from 211.9 mV (SW103) to 322.1 mV (SW063) indicating moderately reducing conditions. • Temperature ranged from 12.1˚C (SW001) to 18.9˚C (SW011).

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 T4** in **Appendix B**. In summary, 22 primary groundwater samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 17 primary samples
- PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in 15 primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in eight primary 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 Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. In summary, 13 primary surface water samples were analysed for PFAS compounds, with concentrations of:

- PFOS+PFHxS, PFOS and/or PFOA reported above laboratory LOR in 11 primary samples
- PFOS+PFHxS and/or PFOA did not exceed the adopted human health screening criteria for recreational use in the any of the primary samples
- PFOS and/or PFOA exceeded the adopted ecological screening criteria in one primary sample.

There were no first-time detections, or new exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA, in the surface water sample analysed.

5.4 Historical Sampling Data

Historical groundwater and surface water sampling data are presented in **Tables T6** and **T7** (respectively) in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The September 2023 biannual sampling event was completed between 11 and 13 September 2023. The findings and the recommended actions are summarised in **Table 8** below.

Table 8 Summary of Sampling Event

Item	Comment	Recommended Action
Access to sampling locations	The following locations were accessed and able to be sampled: • 22 groundwater locations • 13 surface water location	Nil.
Location unable to be located, inaccessible or dry	• One groundwater monitoring well (MW115) was not able to be accessed as the location was covered by a demountable building within the LFS area. • One groundwater monitoring well (MW134) was dry. • Three surface water locations (SW014, SW030 and SW038) were inaccessible due to road closures and hazard reduction burns in the area. • One surface water location (SW111) was dry.	AECOM understands that the building at MW115 is temporary and will remain for a period of 12 to 18 months (from December 2022). Therefore, AECOM will revisit this location during the next scheduled sampling event (December 2023) to check if the building has been removed and sampling can be completed. AECOM will attempt to sample MW134, SW111, SW014, SW030 and SW038 during the next two scheduled sampling events in December 2023 and/or March 2024.
Monitoring well network condition	All monitoring wells that were able to be accessed were noted to be in good condition. However, it is noted that monitoring wells MW002, MW005 and MW301 have no monument to protect the well casing, and given these wells are located in the STP area where civil works are being conducted, there is potential that the wells may be damaged or destroyed.	AECOM will visit monitoring wells MW002, MW005 and MW301 during the next biannual sampling event to ascertain their status and condition.
Analytical Results	22 groundwater primary samples and 13 surface water primary sample were analysed.	Locations will be sampled 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 groundwater or surface water locations sampled reported first-time detections of PFOS+PFHxS, PFOA and/or PFOS.	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 groundwater or surface water locations sampled reported new exceedances of 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	No groundwater or surface water locations sampled reported new exceedances of the adopted ecological screening criteria for PFOS and/or PFOA.	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 December 2023.

6.3 Upcoming Ongoing Monitoring Report

The next Ongoing Monitoring Report is scheduled to be delivered in Q4 2023, covering data collected within the 12-month sampling period between October 2021 and September 2022.

7.0 References

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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.*

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 (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*

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

Appendix A

Figures

Legend

- Site Boundary
- Primary Source Area
- Study Area

FIGURE F1:
STUDY AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 230 460 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater location (sampled)
- Groundwater location (not sampled)

Due to privacy considerations, locations MW119, MW119P, MW129, MW130, MW131, MW133, MW134, MW136 cannot be shown

FIGURE F2: GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 380 760 m

Legend

- Site Boundary
- Primary Source Area
- Surface Water Location (sampled)
- Surface Water Location (not sampled)

FIGURE F3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 230 460 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour Elevation (m AHD)
- Inferred groundwater flow direction
- 10 m AHD Topographical Contour
- Groundwater location (gauged)
- Groundwater location (not gauged or accessed)
- 27.906 Groundwater elevation (mAHD)

FIGURE F4-1:
GROUNDWATER ELEVATION PLAN BEDROCK

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 30 60 m

Legend

- Site Boundary
- Primary Source Area
- Groundwater Contour Elevation (m AHD)
- Inferred Groundwater Flow Direction
- Groundwater location (gauged)
- Groundwater location (not gauged or accessed)
- 27.906 Groundwater elevation (mAHD)

Due to privacy considerations, locations MW119, MW129, MW130, MW131 cannot be shown.

FIGURE F4-2:
GROUNDWATER ELEVATION PLAN
DEEP ALLUVIAL

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

AECOM

N

0 180 360 m

Legend

- Site Boundary
- Primary Source Area
- 10 m AHD Topographical Contour
- Inferred Groundwater Flow Direction
- Groundwater location (gauged)
- Groundwater location (not gauged or accessed)
- 27.906 Groundwater elevation (mAHD)

FIGURE F4-3:
GROUNDWATER ELEVATION PLAN
SHALLOW ALLUVIAL

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
September 2023
Holsworthy Barracks (0382)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2020
© Department of Customer Service 2020

Appendix B

Tables

Table T1 - Groundwater Gauging and Observations

Location Code	Alternative Name	Top of Casing (mAHD)	Top Screen (mbgl)	Bottom Screen (mbgl)	HydraSleeve Collar Depth (mbTOC)	Visit / Gauging Date Time	Water Depth (mbTOC)	Water Elevation (mAHD)	Depth to Base of Well (mbTOC)	Visit / Gauging Comment
MW002	MW02	3.530	Unknown	Unknown	2.20	12/09/2023 12:27	2.446	1.084	3.74	Good condition. No monument around well casing.
MW005	MW05	3.157	Unknown	Unknown	3.00	12/09/2023 12:46	2.209	0.948	3.97	Good condition. No monument around well casing.
MW112	BH112	13.420	10.3	13.3	12.00	11/09/2023 09:18	4.645	8.775	13.19	Good condition.
MW112P	BH112_P, MW112_P	13.430	2	5	3.50	11/09/2023 09:23	2.226	11.204	5.10	Good condition.
MW113	BH113	13.460	10.9	14.9	12.00	11/09/2023 09:08	5.072	8.388	14.76	Good condition
MW115	BH115	14.080	10.1	13.1	n/a	n/a	n/a	n/a	n/a	Unable to access, monitoring well under a temporary demountable building.
MW117	BH117	18.130	13	17.5	16.00	12/09/2023 08:41	13.325	4.805	18.49	Good condition.
MW119	BH119	11.010	8	11	3.00	11/09/2023 09:43	3.007	8.003	11.22	Good condition
MW119P	BH119_P, MW119_P, MW119S	11.120	2	5	9.50	11/09/2023 09:41	3.108	8.012	4.61	Good condition
MW120	BH120	17.270	11.5	14.5	12.00	12/09/2023 09:38	3.027	14.243	15.05	Good condition
MW121	BH121	16.470	15.3	18.3	15.00	12/09/2023 09:23	4.322	12.148	17.12	Good condition.
MW122	BH122	18.540	11.5	14.5	12.00	12/09/2023 10:30	7.977	10.563	15.31	Good condition
MW123	BH123	7.070	2	6	5.00	13/09/2023 09:27	1.921	5.149	6.80	Good condition
MW124	BH124	6.390	2	5	3.00	13/09/2023 09:38	3.941	2.449	4.92	Good condition. No HydraSleeve present in well.
MW129		9.526	5	8	6.50	11/09/2023 10:14	1.596	7.930	7.66	Good condition
MW130		12.986	6	9	7.50	11/09/2023 08:12	4.997	7.989	8.67	Good condition
MW131		12.179	7	10	8.50	11/09/2023 08:40	4.283	7.896	9.95	Good condition
MW133	MW133P	13.350	2	4	3.00	11/09/2023 08:32	3.853	9.497	4.87	Good condition
MW134	MW134P	13.210	1.9	3.9	3.00	11/09/2023 08:59	-	-	4.66	Good condition, monitoring well dry.
MW136	MW136P	11.860	2.25	4.25	3.00	11/09/2023 08:48	2.973	8.887	4.95	Good condition
MW301	MW1	3.383	Unknown	Unknown	3.00	12/09/2023 14:51	1.793	1.590	4.55	Good condition. No monument around well casing.
MW323	BH345	36.380	9	15	13.00	13/09/2023 09:08	8.427	27.953	15.00	Good condition
MW330	BH365	29.530	4	10	8.00	12/09/2023 14:43	5.545	23.985	9.87	Good condition
MW349	BH612	18.420	3.9	8.2	6.00	13/09/2023 10:10	4.482	13.938	7.68	Good condition

Notes

mAHD	metres Australian Height Datum
mbgl	metres below ground level
mbTOC	metres 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	Redox Potential Er	Redox Potential Eh (Corrected)
Location Code	**Alternative Name**	**Sampled Date**	**Sample Comments**	mg/L	°C	µS/cm	pH Units	mV	mV
MW002	MW02	12 Sep 2023	Brown, medium turbidity, no odour, no sheen.	0.67	17.3	364.7	6.65	-127.8	78.0
MW005	MW05	12 Sep 2023	Brown, medium turbidity, no odour, no sheen.	0.97	14.7	3,572.0	6.35	18.8	224.6
MW112	BH112	11 Sep 2023	Clear, no turbidity, no odour, no sheen.	6.14	18.8	1,549.0	6.62	88.5	294.3
MW112P	BH112_P, MW112_P	11 Sep 2023	Grey, low turbidity, no odour, no sheen.	2.74	16.8	366.0	5.37	93.4	299.2
MW113	BH113	11 Sep 2023	Grey, no turbidity, no odour, no sheen.	4.38	19.7	302.4	5.82	-18.5	187.3
MW115	BH115	-	n/a - not sampled, unable to access, monitoring well under a temporary demountable building.	-	-	-	-	-	-
MW117	BH117	12 Sep 2023	Grey, low turbidity, no odour, no sheen.	1.56	16.2	863.0	5.25	195.0	400.8
MW119	BH119	11 Sep 2023	Grey, no turbidity, no odour, no sheen.	4.97	19.1	1,226.0	7.16	-37.5	168.3
MW119P	BH119_P, MW119_P, MW119S	11 Sep 2023	Light brown, low turbidity, no odour, no sheen.	2.37	18.5	1,471.0	4.54	192.1	397.9
MW120	BH120	12 Sep 2023	Light brown, medium turbidity, no odour, no sheen.	1.82	17.8	777.0	6.65	83.9	289.7
MW121	BH121	12 Sep 2023	Light brown, medium turbidity, no odour, no sheen.	1.88	17.9	863.0	6.47	63.5	269.3
MW122	BH122	12 Sep 2023	Clear, no turbidity, no odour, no sheen.	4.63	18.9	502.0	5.51	229.7	435.5
MW123	BH123	13 Sep 2023	Light brown, low turbidity, no odour, no sheen.	1.08	15.0	10,913.0	6.49	31.2	237.0
MW124	BH124	13 Sep 2023	Light brown, low turbidity, no odour, no sheen. No HydraSleeve present in well, sampled with bailer.	2.28	17.5	4,200.0	4.93	211.9	417.7
MW129		11 Sep 2023	Grey, low turbidity, no odour, no sheen.	4.96	17.9	1,575.0	6.57	45.0	250.8
MW130		11 Sep 2023	Grey, no turbidity, no odour, no sheen.	0.31	20.0	771.0	4.15	266.9	472.7
MW131		11 Sep 2023	Clear, no turbidity, no odour, no sheen.	4.39	19.7	1,304.0	6.41	176.4	382.2
MW133	MW133P	11 Sep 2023	Light brown, low turbidity, no odour, no sheen.	4.75	17.9	815.0	6.49	278.1	483.9
MW134	MW134P	-	n/a - not sampled, monitoring well dry.	-	-	-	-	-	-
MW136	MW136P	11 Sep 2023	Clear, no turbidity, no odour, no sheen.	1.81	18.6	1,246.0	5.77	-18.2	187.6
MW301	MW1	12 Sep 2023	Orange, medium turbidity, no odour, no sheen.	1.62	14.1	1,132.0	6.67	27.2	233.0
MW323	BH345	13 Sep 2023	Clear, low turbidity, no odour, no sheen.	1.30	17.8	13,211.0	6.48	-18.6	187.2
MW330	BH365	12 Sep 2023	Dark grey, medium turbidity, no odour, no sheen.	1.66	21.5	2,574.0	4.11	349.8	555.6
MW349	BH612	13 Sep 2023	Grey, low turbidity, no odour, no sheen.	1.38	18.2	1,047.0	5.40	95.1	300.9

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

-	Not measured
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)
Location Code	**Sampled Dat**	**Location Comments**	**Sample Depth (m)**	**Sample Comments**	mg/L	°C	µS/cm	pH_Units	mV	mV
SW001	11 Sep 2023	Swale/drainage channel, 1m wide, 0.2m deep. Biosheen observed, suspended organic materials. Water flow not observed.	0.05 - 0.1	Clear, no turbidity, no odour, no sheen.	2.46	12.1	215.3	6.55	86.5	292.3
SW009	11 Sep 2023	Creek, 0.7m wide, approx. 0.5m deep. Water flow observed towards north. Sampled approximately 100m from intended location due to inaccessibility (Construction site blocking access).	0.2 - 0.25	Clear, medium turbidity, no odour, no sheen.	7.73	14.6	269.2	6.85	57.4	263.2
SW011	12 Sep 2023	River, 35m wide, unknown depth. Water flow observed.	0.2 - 0.3	Clear, low turbidity, no odour, no sheen.	5.51	18.9	4327.0	6.93	16.3	222.1
SW012	12 Sep 2023	River, 25m wide, unknown depth. Water flow observed.	0.2 - 0.3	Clear, low turbidity, no odour, no sheen.	4.80	17.4	1262.0	7.09	79.9	285.7
SW014	13 Sep 2023	River. Inaccessible due to bushfires and road closures.	-	n/a not sampled	-	-	-	-	-	-
SW015	11 Sep 2023	Creek, 2m wide, 0.5m deep. Water flow not observed.	0.2 - 0.3	Clear, no turbidity, no odour, no sheen.	7.73	14.6	269.2	6.85	57.4	263.2
SW017	12 Sep 2023	Creek, 2m wide, 0.1m deep. Water flow observed.	0.1 - 0.15	Clear, no turbidity, no odour, no sheen.	4.15	16.3	2941.0	6.52	69.8	275.6
SW025	11 Sep 2023	River, 20m wide, unknown depth. Water flow not observed.	0.3 - 0.4	Clear, medium turbidity, no odour, no sheen.	7.28	17.1	489.7	7.76	73.9	279.7
SW030	13 Sep 2023	Creek. Inaccessible due to bushfires.	-	n/a not sampled	-	-	-	-	-	-
SW038	13 Sep 2023	Creek. Inaccessible due to bushfires.	-	n/a not sampled	-	-	-	-	-	-
SW059	11 Sep 2023	Creek, 2m wide, 0.1-0.2m deep. Water flow not observed.	0.5 - 0.15	Clear, no turbidity, no odour, no sheen.	5.04	13.6	234.5	6.94	23.3	229.1
SW062	11 Sep 2023	River, 20m wide, unknown depth. Water flow observed.	0.3 - 0.35	Clear, medium turbidity, no odour, no sheen.	7.41	17.1	489.7	7.76	73.9	279.7
SW063	12 Sep 2023	River, 20m wide, unknown depth. Water flow observed.	0.3 - 0.35	Grey, medium turbidity, no odour, no sheen.	6.56	15.6	450.6	7.17	116.3	322.1
SW103	12 Sep 2023	Concreted drainage channel, 0.5m wide, 0.5m deep, 4m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	0.19	16.0	323.1	6.75	6.1	211.9
SW104	12 Sep 2023	Covered pit, 0.5m wide, unknown depth, 2m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	1.01	15.5	121.4	6.84	17.5	223.3
SW105	12 Sep 2023	Covered pit, 0.5m wide, unknown depth, 2m long. Water flow not observed.	0.3 - 0.35	Blue, low turbidity, no odour, no sheen.	0.39	15.1	119.6	6.89	21.1	226.9
SW111	11 Sep 2023	Creek. Dry.	-	n/a not sampled	-	-	-	-	-	-

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

\- Not measured

Table T4 - 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						0.01	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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																														
MW002	12 Sep 2023	0382_MW002_230912	Normal	ES2331172		0.12	0.08	0.02	**0.10**	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	<0.02	<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	12 Sep 2023	0382_MW005_230912	Normal	ES2331172		0.03	0.06	0.05	**0.11**	0.29	0.15	<0.02	<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
MW112	11 Sep 2023	0382_MW112_230911	Normal	ES2331172		**1.58**	*23.8*	31.3	**55.1**	70.6	2.42	4.31	2.58	<0.02	0.4	0.56	3.01	0.60	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	11 Sep 2023	0382_MW112P_230911	Normal	ES2331172		0.23	*22.5*	2.84	**25.3**	27.5	0.18	0.24	0.30	<0.02	0.1	0.20	0.82	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	11 Sep 2023	0382_MW113_230911	Normal	ES2331172		**22.3**	*329*	316	**645**	890	44.7	56.4	28.8	0.10	6.4	11.9	60.5	10.3	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	3.82	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	12 Sep 2023	0382_MW117_230912	Normal	ES2331172		<0.01	*0.18*	0.02	**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
MW117	12 Sep 2023	0382_QC102_230912	Field_D	ES2331172		<0.01	*0.14*	0.01	**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
MW117	12 Sep 2023	0382_QC202_2309	Interlab_D	332934		<0.01	0.09	<0.01	**0.09**	0.09	<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
MW119	11 Sep 2023	0382_MW119_230911	Normal	ES2331172		**0.59**	*28.0*	8.16	**36.2**	43.5	1.16	1.44	0.62	<0.02	0.4	0.58	2.24	0.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	11 Sep 2023	0382_MW119P_230911	Normal	ES2331172		**4.72**	*149*	55.6	**205**	240	5.00	7.85	6.99	<0.02	0.6	1.31	7.72	1.45	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.15	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW120	12 Sep 2023	0382_MW120_230912	Normal	ES2331172		<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	12 Sep 2023	0382_MW121_230912	Normal	ES2331172		<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
MW122	12 Sep 2023	0382_MW122_230912	Normal	ES2331172		<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
MW123	13 Sep 2023	0382_MW123_230913	Normal	ES2331172		<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	13 Sep 2023	0382_MW124_230913	Normal	ES2331172		<0.01	<0.01	0.02	0.02	0.08	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
MW129	11 Sep 2023	0382_MW129_230911	Normal	ES2331172		<0.01	0.06	0.02	**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
MW130	11 Sep 2023	0382_MW130_230911	Normal	ES2331172		<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
MW130	11 Sep 2023	0382_QC100_230911	Field_D	ES2331172		<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
MW130	11 Sep 2023	0382_QC200_2309	Interlab_D	332934		<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
MW131	11 Sep 2023	0382_MW131_230911	Normal	ES2331172		<0.01	0.13	0.03	**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
MW133	11 Sep 2023	0382_MW133_230911	Normal	ES2331172		**3.51**	*587*	29.2	**616**	645	1.55	2.70	8.38	<0.02	1.3	1.88	9.09	0.56	0.06	<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
MW136	11 Sep 2023	0382_MW136_230911	Normal	ES2331172		<0.01	0.06	0.05	**0.11**	0.15	0.04	<0.02	<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
MW301	12 Sep 2023	0382_MW301_230912	Normal	ES2331172		<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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW323	13 Sep 2023	0382_MW323_230913	Normal	ES2331172		<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
MW330	12 Sep 2023	0382_MW330_230912	Normal	ES2331172		**4.79**	*17.6*	56.5	**74.1**	113	1.70	6.10	3.11	<0.02	1.2	2.78	17.4	1.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	12 Sep 2023	0382_QC103_230912	Field_D	ES2331172		**4.55**	*15.3*	54.4	**69.7**	108	1.86	7.06	2.85	<0.04	1.2	2.59	16.5	1.66	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW330	12 Sep 2023	0382_QC203_2309	Interlab_D	332934		**5.1**	*14*	64	**77**	120	2.6	7.2	4.3	<0.02	1.6	3.1	18	1.9	<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
MW349	13 Sep 2023	0382_MW349_230913	Normal	ES2331172		0.01	0.07	0.30	**0.37**	0.51	0.05	0.05	<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

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 T5 - 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 Recreational Water						**10**			**2**																									
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Lab Report #**																														
SW001	11 Sep 2023	0382_SW001_230911	Normal	ES2331172		<0.01	0.11	0.02	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
SW009	11 Sep 2023	0382_SW009_230911	Normal	ES2331172		0.01	*0.16*	0.13	0.29	0.34	<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
SW011	12 Sep 2023	0382_SW011_230912	Normal	ES2331172		<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
SW012	12 Sep 2023	0382_SW012_230912	Normal	ES2331172		<0.01	0.03	0.02	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
SW015	11 Sep 2023	0382_SW015_230911	Normal	ES2331172		<0.01	0.05	0.03	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
SW017	12 Sep 2023	0382_SW017_230912	Normal	ES2331172		<0.01	0.04	0.03	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
SW025	11 Sep 2023	0382_SW025_230911	Normal	ES2331172		<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
SW059	11 Sep 2023	0382_SW059_230911	Normal	ES2331172		<0.01	0.05	0.03	0.08	0.11	<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
SW059	11 Sep 2023	0382_QC101_230911	Field_D	ES2331172		<0.01	0.03	0.03	0.06	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
SW059	11 Sep 2023	0382_QC201_2309	Interlab_D	332934		<0.01	0.03	0.03	0.06	0.09	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW062	11 Sep 2023	0382_SW062_230911	Normal	ES2331172		<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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW063	12 Sep 2023	0382_SW063_230912	Normal	ES2331172		<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
SW103	12 Sep 2023	0382_SW103_230912	Normal	ES2331172		<0.01	0.06	0.10	0.16	0.23	0.04	<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
SW104	12 Sep 2023	0382_SW104_230912	Normal	ES2331172		<0.01	0.07	0.04	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	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	12 Sep 2023	0382_SW105_230912	Normal	ES2331172		<0.01	0.09	0.04	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	<0.05	<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 - Groundwater Historical 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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW002	20 Feb 2018	0382_MW02_180220	Normal	NSW_0382_PFAS		0.35	*0.16*	0.08	**0.24**	1.11	0.02	<0.01	<0.01	<0.01	0.05	0.10	0.14	0.10	0.03	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
MW002	01 Oct 2020	0382_MW002_201001	Normal	NSW_0382_PFASOMP_20		0.20	0.04	0.05	**0.09**	0.85	0.28	<0.02	<0.02	<0.02	<0.1	0.08	0.16	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	01 Oct 2020	0382_QC102_201001	Field_D	NSW_0382_PFASOMP_20		0.17	0.03	0.04	0.07	0.43	<0.02	<0.02	<0.02	<0.02	<0.1	0.08	0.07	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
MW002	26 Mar 2021	0382_MW002_210326	Normal	NSW_0382_PFASOMP_20		0.05	0.03	0.02	0.05	0.19	<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	0.03	<0.05	<0.05	0.03	<0.05
MW002	06 Sep 2021	0382_MW002_210906	Normal	NSW_0382_PFASOMP_20		0.14	0.04	0.03	0.07	0.31	<0.02	<0.02	<0.02	<0.02	<0.1	0.02	0.04	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
MW002	21 Mar 2022	0382_MW002_220321	Normal	NSW_0382_PFASOMP_20		0.21	0.12	0.04	**0.16**	0.56	0.04	<0.02	<0.02	<0.02	<0.1	0.05	0.06	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
MW002	06 Sep 2022	0382_MW002_220906	Normal	NSW_0382_PFASOMP_20		0.17	0.07	0.04	**0.11**	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.05	0.05	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
MW002	15 Mar 2023	0382_MW002_230315	Normal	NSW_0382_PFASOMP_23		0.09	0.09	0.02	**0.11**	0.25	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.05	<0.02	<0.05
MW002	12 Sep 2023	0382_MW002_230912	Normal	NSW_0382_PFASOMP_23		0.12	0.08	0.02	**0.10**	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW005	21 Feb 2018	0382_MW05_180221	Normal	NSW_0382_PFAS		0.03	0.11	0.11	**0.22**	0.34	0.01	0.01	<0.01	<0.01	<0.05	0.02	0.04	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW005	21 Mar 2022	0382_MW005_220321	Normal	NSW_0382_PFASOMP_20		0.01	0.04	0.03	0.07	0.20	0.12	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	06 Sep 2022	0382_MW005_220906	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.05	**0.16**	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Mar 2023	0382_MW005_230314	Normal	NSW_0382_PFASOMP_23		0.02	0.06	0.04	**0.10**	0.20	0.08	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	12 Sep 2023	0382_MW005_230912	Normal	NSW_0382_PFASOMP_23		0.03	0.06	0.05	**0.11**	0.29	0.15	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	28 Mar 2018	0382_MW112_180328	Normal	NSW_0382_PFAS		**4.3**	*64*	58	**122**	162.2	6.7	12	3.3	<0.01	0.99	1.5	9.7	1.7	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112	01 Oct 2020	0382_MW112_201001	Normal	NSW_0382_PFASOMP_20		**4.75**	*52.8*	70.4	**123**	167	6.32	10.3	6.01	<0.02	1.0	1.87	11.6	1.97	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	03 Dec 2020	0382_MW112_201203	Normal	NSW_0382_PFASOMP_20		**3.03**	*30.0*	42.4	**72.4**	100	3.86	6.31	2.92	<0.02	0.9	1.29	8.16	1.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	25 Mar 2021	0382_MW112_210325	Normal	NSW_0382_PFASOMP_20		**3.76**	*25.7*	47.4	**73.1**	104	5.13	6.30	2.92	<0.02	0.9	1.46	8.38	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	07 Jun 2021	0382_MW112_210607	Normal	NSW_0382_PFASOMP_20		**4.14**	*37.9*	49.5	**87.4**	123	5.33	8.27	4.27	<0.02	0.9	1.53	9.40	1.58	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	07 Sep 2021	0382_MW112_210907	Normal	NSW_0382_PFASOMP_20		**3.12**	*21.2*	44.0	**65.2**	93.8	4.61	6.47	3.01	<0.02	0.8	1.33	7.88	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	06 Dec 2021	0382_MW112_211206	Normal	NSW_0382_PFASOMP_20		**2.43**	*34.9*	46.8	**81.7**	111	5.31	5.51	3.65	<0.02	0.9	1.26	9.28	1.32	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	23 Mar 2022	0382_MW112_220323	Normal	NSW_0382_PFASOMP_20		**3.25**	*31.8*	48.8	**80.6**	109	5.01	6.00	3.21	<0.02	0.6	1.14	8.13	1.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	15 Jun 2022	0382_MW112_220615	Normal	NSW_0382_PFASOMP_20		**4.72**	*45.6*	72.0	**118**	159	7.22	8.57	4.30	<0.05	1.2	1.77	11.6	2.01	<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
MW112	05 Sep 2022	0382_MW112_220905	Normal	NSW_0382_PFASOMP_20		**1.56**	*22.0*	32.4	**54.4**	71.5	2.02	4.00	4.10	<0.02	0.4	0.72	3.61	0.65	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	05 Dec 2022	0382_MW112_221205	Normal	NSW_0382_PFASOMP_20		**1.93**	*25.1*	36.0	**61.1**	81.7	2.86	4.48	4.35	<0.02	0.5	0.82	4.84	0.82	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	13 Mar 2023	0382_MW112_230313	Normal	NSW_0382_PFASOMP_23		**2.65**	*27.2*	40.4	**67.6**	90.0	3.46	4.96	3.02	<0.02	0.7	1.07	5.46	1.03	<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
MW112	13 Jun 2023	0382_MW112_230613	Normal	NSW_0382_PFASOMP_23		**2.19**	*26.8*	36.0	**62.8**	81.3	3.03	4.11	2.62	<0.02	0.5	0.79	4.41	0.84	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112	11 Sep 2023	0382_MW112_230911	Normal	NSW_0382_PFASOMP_23		**1.58**	*23.8*	31.3	**55.1**	70.6	2.42	4.31	2.58	<0.02	0.4	0.56	3.01	0.60	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	28 Mar 2018	0382_MW112_P_180328	Normal	NSW_0382_PFAS		0.33	*50*	6.0	**56**	60.19	0.33	1.2	0.34	<0.01	0.16	0.30	1.4	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW112P	01 Oct 2020	0382_MW112_P_201001	Normal	NSW_0382_PFASOMP_20		0.40	*37.3*	8.10	**45.4**	49.8	0.33	0.64	0.52	<0.02	0.2	0.35	1.78	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	03 Dec 2020	0382_MW112_P_201203	Normal	NSW_0382_PFASOMP_20		0.22	*23.2*	4.43	**27.6**	30.2	0.20	0.38	0.29	<0.02	0.1	0.22	1.09	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	25 Mar 2021	0382_MW112_P_210325	Normal	NSW_0382_PFASOMP_20		0.25	*20.1*	4.75	**24.8**	27.7	0.19	0.28	0.24	<0.02	0.2	0.24	1.35	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	25 Mar 2021	0382_QC100_210325	Field_D	NSW_0382_PFASOMP_20		0.25	*22.5*	5.06	**27.6**	30.6	0.21	0.31	0.27	<0.02	0.2	0.26	1.45	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	07 Jun 2021	0382_MW112P_210607	Normal	NSW_0382_PFASOMP_20		0.33	*28.2*	5.56	**33.8**	37.0	0.24	0.40	0.36	<0.02	0.2	0.28	1.32	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	07 Sep 2021	0382_MW112P_210907	Normal	NSW_0382_PFASOMP_20		0.24	*19.1*	4.68	**23.8**	26.6	0.20	0.32	0.29	<0.02	0.2	0.23	1.26	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	06 Dec 2021	0382_MW112P_211206	Normal	NSW_0382_PFASOMP_20		0.19	*20.8*	3.90	**24.7**	27.2	0.18	0.24	0.23	<0.02	0.2	0.20	1.17	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	23 Mar 2022	0382_MW112P_220323	Normal	NSW_0382_PFASOMP_20		0.05	*7.08*	1.67	**8.75**	9.18	0.04	0.08	0.09	<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
MW112P	15 Jun 2022	0382_MW112P_220615	Normal	NSW_0382_PFASOMP_20		0.26	*30.6*	5.74	**36.3**	39.4	0.22	0.28	0.35	<0.02	0.2	0.30	1.31	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	05 Sep 2022	0382_MW112P_220905	Normal	NSW_0382_PFASOMP_20		0.25	*24.3*	4.36	**28.7**	31.3	0.16	0.30	0.31	<0.02	0.2	0.26	1.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	05 Dec 2022	0382_MW112P_221205	Normal	NSW_0382_PFASOMP_20		0.15	*16.3*	3.68	**20.0**	21.5	0.12	0.23	0.16	<0.02	<0.1	0.12	0.66	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	13 Mar 2023	0382_MW112P_230313	Normal	NSW_0382_PFASOMP_23		0.18	*18.7*	4.98	**23.7**	25.9	0.16	0.28	0.22	<0.02	0.1	0.16	1.04	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	13 Mar 2023	0382_QC102_230313	Field_D	NSW_0382_PFASOMP_23		0.17	*17.2*	4.48	**21.7**	23.8	0.16	0.30	0.22	<0.02	0.1	0.17	0.96	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	13 Mar 2023	0382_QC202_230313	Interlab_D	NSW_0382_PFASOMP_23		0.19	*13*	3.7	**17**	19	0.15	0.23	0.16	<0.02	0.1	0.2	0.84	0.07	<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
MW112P	13 Jun 2023	0382_MW112P_230613	Normal	NSW_0382_PFASOMP_23		0.30	*27.7*	4.55	**32.2**	35.0	0.20	0.32	0.38	<0.02	0.2	0.22	1.02	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW112P	11 Sep 2023	0382_MW112P_230911	Normal	NSW_0382_PFASOMP_23		0.23	*22.5*	2.84	**25.3**	27.5	0.18	0.24	0.30	<0.02	0.1	0.20	0.82	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<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	28 Mar 2018	0382_MW113_180328	Normal	NSW_0382_PFAS		**3.7**	*46*	74	**120**	169.15	11	13	3.0	<0.01	1.2	2.1	13	1.9	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW113	01 Oct 2020	0382_MW113_201001	Normal	NSW_0382_PFASOMP_20		**15.7**	*194*	284	**478**	681	36.2	46.6	29.6	0.17	4.4	8.81	53.0	7.59	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	03 Dec 2020	0382_MW113_201203	Normal	NSW_0382_PFASOMP_20		**11.8**	*108*	162	**270**	413	27.3	38.9	9.70	0.05	4.2	6.48	38.0	6.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.65	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	03 Dec 2020	0382_QC100_201203	Field_D	NSW_0382_PFASOMP_20		**12.4**	*122*	165	**287**	437	29.0	40.5	10.6	0.05	4.2	6.40	39.8	6.11	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.64	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	03 Dec 2020	0382_QC200_201203	Interlab_D	NSW_0382_PFASOMP_20		**8.2**	*97*	180	-	-	22	21	6.2	<0.01	3.4	6.1	31	4.2	0.024	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.54	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW113	25 Mar 2021	0382_MW113_210325	Normal	NSW_0382_PFASOMP_20		**7.56**	*247*	89.0	**336**	417	10.4	12.5	5.91	0.54	3.7	9.56	20.8	3.77	0.56	0.06	<0.02	<0.02	<0.02	<0.05	<0.05	5.68	0.10	<0.05	0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	07 Jun 2021	0382_MW113_210607	Normal	NSW_0382_PFASOMP_20		**17.8**	*219*	269	**488**	711	38.4	51.1	26.6	0.16	4.8	10.0	63.0	9.13	0.16	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.70	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T6 - Groundwater Historical 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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW113	07 Sep 2021	0382_MW113_210907	Normal	NSW_0382_PFASOMP_20		**10.0**	*205*	252	**457**	650	36.0	56.4	22.7	0.07	4.9	8.76	46.4	7.12	0.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.83	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	06 Dec 2021	0382_MW113_211206	Normal	NSW_0382_PFASOMP_20		**15.2**	*183*	266	**449**	656	43.0	46.6	20.4	0.08	4.5	9.43	58.9	7.81	0.10	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.16	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	06 Dec 2021	0382_QC100_211206	Field_D	NSW_0382_PFASOMP_20		**14.6**	*182*	262	**444**	644	39.8	45.1	20.0	0.09	4.7	8.74	58.4	7.42	0.08	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	1.15	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	23 Mar 2022	0382_MW113_220323	Normal	NSW_0382_PFASOMP_20		**10.6**	*1,240*	140	**1,380**	1,500	11.2	14.4	10.3	0.24	4.6	16.5	30.0	4.34	1.13	0.12	<0.04	<0.04	<0.04	<0.10	<0.05	17.8	0.09	<0.05	0.05	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW113	15 Jun 2022	0382_MW113_220615	Normal	NSW_0382_PFASOMP_20		**14.9**	*580*	200	**780**	946	20.3	27.0	17.8	0.32	5.2	16.8	38.7	6.66	1.07	0.08	<0.05	<0.05	<0.05	<0.12	<0.05	16.6	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	05 Sep 2022	0382_MW113_220905	Normal	NSW_0382_PFASOMP_20		**14.2**	*336*	184	**520**	683	21.7	40.9	21.0	0.17	4.2	12.3	34.1	6.24	0.42	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	7.76	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	05 Sep 2022	0382_QC200_2209	Interlab_D	NSW_0382_PFASOMP_20		**13**	*260*	180	**440**	580	24	24	13	0.06	4.5	9.9	36	6.8	0.29	0.03	<0.02	<0.05	<0.1	<0.5	<0.01	7.6	0.03	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW113	05 Dec 2022	0382_MW113_221205	Normal	NSW_0382_PFASOMP_20		**17.2**	*389*	234	**623**	812	26.5	43.4	21.7	0.10	4.4	13.2	44.9	7.96	0.32	0.03	<0.02	<0.02	<0.02	<0.05	<0.05	9.22	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	05 Dec 2022	0382_QC100_221205	Field_D	NSW_0382_PFASOMP_20		**19.1**	*407*	234	**641**	847	29.6	47.7	24.2	0.08	4.2	14.6	48.0	8.18	0.34	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	9.81	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	13 Mar 2023	0382_MW113_230313	Normal	NSW_0382_PFASOMP_23		**24.0**	*403*	331	**734**	1,000	49.1	58.2	31.3	0.08	6.7	15.4	69.2	11.4	0.34	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	5.99	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW113	13 Jun 2023	0382_MW113_230613	Normal	NSW_0382_PFASOMP_23		**26.3**	*376*	384	**760**	1,040	51.5	58.0	34.7	0.10	7.6	15.3	70.8	11.8	0.17	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	5.63	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW113	11 Sep 2023	0382_MW113_230911	Normal	NSW_0382_PFASOMP_23		**22.3**	*329*	316	**645**	890	44.7	56.4	28.8	0.10	6.4	11.9	60.5	10.3	0.17	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	3.82	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	28 Mar 2018	0382_MW115_180328	Normal	NSW_0382_PFAS		**13**	*360*	180	**540**	663.1	21	30	14	<0.2	3.2	5.7	31	5.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW115	01 Oct 2020	0382_MW115_201001	Normal	NSW_0382_PFASOMP_20		**16.1**	*469*	218	**687**	850	20.1	38.4	28.2	<0.02	3.9	7.38	41.7	6.53	0.15	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.70	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	03 Dec 2020	0382_MW115_201203	Normal	NSW_0382_PFASOMP_20		**12.0**	*267*	133	**400**	505	16.0	20.9	13.4	<0.02	3.5	4.92	28.4	4.92	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.57	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	25 Mar 2021	0382_MW115_210325	Normal	NSW_0382_PFASOMP_20		**9.06**	*160*	113	**273**	356	13.0	16.2	8.63	<0.02	3.6	4.30	23.8	3.98	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.68	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	07 Jun 2021	0382_MW115_210607	Normal	NSW_0382_PFASOMP_20		**14.4**	*306*	178	**484**	611	17.0	28.1	17.5	<0.02	3.6	6.53	32.6	6.07	0.14	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.74	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW115	07 Sep 2021	0382_MW115_210907	Normal	NSW_0382_PFASOMP_20		**8.78**	*262*	162	**424**	538	17.5	27.6	14.9	<0.02	3.5	5.66	31.6	3.94	0.11	<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
MW115	06 Dec 2021	0382_MW115_211206	Normal	NSW_0382_PFASOMP_20		**10.4**	*210*	133	**343**	445	15.9	18.2	10.8	<0.04	3.2	5.08	32.8	4.61	0.12	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.60	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	23 Mar 2022	0382_MW115_220323	Normal	NSW_0382_PFASOMP_20		**11.2**	*281*	160	**441**	562	19.4	21.9	14.8	<0.04	3.4	5.98	38.2	5.36	0.16	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.87	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW115	15 Jun 2022	0382_MW115_220615	Normal	NSW_0382_PFASOMP_20		**15.7**	*358*	203	**561**	701	19.4	30.4	17.7	<0.05	3.8	7.03	38.2	6.30	0.16	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.94	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	05 Sep 2022	0382_MW115_220905	Normal	NSW_0382_PFASOMP_20		**12.7**	*341*	190	**531**	650	14.2	32.1	20.9	<0.05	3.2	5.46	24.7	4.79	0.13	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.75	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW115	05 Sep 2022	0382_QC100_220905	Field_D	NSW_0382_PFASOMP_20		**12.4**	*336*	194	**530**	641	15.1	26.6	14.5	<0.05	3.1	5.72	28.1	5.02	0.14	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.66	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW117	01 May 2018	0382_MW117_180501	Normal	NSW_0382_PFAS		<0.01	0.06	0.02	**0.08**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	01 May 2018	0382_QC101_180501	Field_D	NSW_0382_PFAS		<0.01	0.06	0.02	**0.08**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW117	01 May 2018	0382_QC201_180501	Interlab_D	NSW_0382_PFAS		<0.01	0.04	<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
MW117	26 Mar 2021	0382_MW117_210326	Normal	NSW_0382_PFASOMP_20		<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
MW117	07 Sep 2021	0382_MW117_210907	Normal	NSW_0382_PFASOMP_20		<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
MW117	21 Mar 2022	0382_MW117_220321	Normal	NSW_0382_PFASOMP_20		<0.01	*0.14*	0.05	**0.19**	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	07 Sep 2022	0382_MW117_220907	Normal	NSW_0382_PFASOMP_20		0.04	*1.47*	0.48	**1.95**	2.16	<0.02	0.03	0.11	<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
MW117	14 Mar 2023	0382_MW117_230314	Normal	NSW_0382_PFASOMP_23		<0.01	*0.46*	0.06	**0.52**	0.55	<0.02	<0.02	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW117	12 Sep 2023	0382_MW117_230912	Normal	NSW_0382_PFASOMP_23		<0.01	*0.18*	0.02	**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
MW117	12 Sep 2023	0382_QC102_230912	Field_D	NSW_0382_PFASOMP_23		<0.01	*0.14*	0.01	**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
MW117	12 Sep 2023	0382_QC202_2309	Interlab_D	NSW_0382_PFASOMP_23		<0.01	0.09	<0.01	**0.09**	0.09	<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
MW119	28 Mar 2018	0382_MW119_180328	Normal	NSW_0382_PFAS		0.08	*0.62*	1.9	**2.52**	4.26	0.42	0.58	0.03	<0.01	0.05	0.07	0.44	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	28 Mar 2018	0382_QC102_180328	Field_D	NSW_0382_PFAS		0.08	*0.62*	2.2	**2.82**	4.51	0.43	0.49	0.04	<0.01	0.05	0.07	0.46	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119	01 Oct 2020	0382_MW119_201001	Normal	NSW_0382_PFASOMP_20		0.36	*18.6*	5.17	**23.8**	26.8	0.62	0.62	0.37	<0.02	<0.1	0.16	0.80	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	03 Dec 2020	0382_MW119_201203	Normal	NSW_0382_PFASOMP_20		0.10	*2.03*	1.04	**3.07**	3.98	0.19	0.19	0.06	<0.02	<0.1	0.06	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
MW119	25 Mar 2021	0382_MW119_210325	Normal	NSW_0382_PFASOMP_20		0.39	*24.0*	5.78	**29.8**	34.3	0.78	0.56	0.32	<0.02	0.4	0.43	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Jun 2021	0382_MW119_210607	Normal	NSW_0382_PFASOMP_20		0.40	*8.80*	3.59	**12.4**	16.8	0.81	0.55	0.15	<0.02	0.4	0.47	1.53	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Jun 2021	0382_QC100_210607	Field_D	NSW_0382_PFASOMP_20		0.40	*7.53*	3.41	**10.9**	15.3	0.78	0.53	0.14	<0.02	0.4	0.49	1.47	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	07 Sep 2021	0382_MW119_210907	Normal	NSW_0382_PFASOMP_20		0.55	*8.84*	6.17	**15.0**	21.6	1.12	1.08	0.31	<0.02	0.46	0.59	2.28	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	06 Dec 2021	0382_MW119_211206	Normal	NSW_0382_PFASOMP_20		0.39	*7.43*	5.36	**12.8**	18.9	1.07	0.89	0.25	<0.02	0.4	0.46	2.40	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	23 Mar 2022	0382_MW119_220323	Normal	NSW_0382_PFASOMP_20		0.55	*32.8*	4.60	**37.4**	46.7	0.84	0.53	0.35	<0.02	2.2	1.63	3.00	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	15 Jun 2022	0382_MW119_220615	Normal	NSW_0382_PFASOMP_20		**0.63**	*27.3*	6.50	**33.8**	42.2	0.77	0.70	0.42	<0.02	1.4	1.31	2.91	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	05 Sep 2022	0382_MW119_220905	Normal	NSW_0382_PFASOMP_20		0.37	*21.3*	4.62	**25.9**	31.8	0.49	0.67	0.32	<0.02	0.9	0.89	2.00	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
MW119	05 Dec 2022	0382_MW119_221205	Normal	NSW_0382_PFASOMP_20		0.47	*26.2*	7.96	**34.2**	40.9	0.80	1.31	0.43	<0.02	0.6	0.71	2.17	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Mar 2023	0382_MW119_230313	Normal	NSW_0382_PFASOMP_23		**0.86**	*33.8*	13.7	**47.5**	58.9	1.79	2.04	0.64	<0.02	0.8	1.04	3.72	0.52	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_MW119_230613	Normal	NSW_0382_PFASOMP_23		**0.82**	*32.5*	13.6	**46.1**	56.5	1.51	2.17	0.75	<0.02	0.7	0.82	3.23	0.44	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_QC101_230613	Field_D	NSW_0382_PFASOMP_23		**0.79**	*30.0*	12.8	**42.8**	52.9	1.47	2.01	0.68	<0.02	0.7	0.82	3.17	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119	13 Jun 2023	0382_QC201_230613	Interlab_D	NSW_0382_PFASOMP_23		**0.60**	*24*	9.6	**33**	41	1.2	1.5	0.44	<0.02	0.52	0.63	2.6	0.34	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
MW119	11 Sep 2023	0382_MW119_230911	Normal	NSW_0382_PFASOMP_23		**0.59**	*28.0*	8.16	**36.2**	43.5	1.16	1.44	0.62	<0.02	0.4	0.58	2.24	0.32	<0.02	<0.02	<0.02	<0.02	<0.02	<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 - Groundwater Historical 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	0.005	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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW119P	28 Mar 2018	0382_MW119_P_180328	Normal	NSW_0382_PFAS		**1.6**	*30*	16	**46**	60.25	2.2	3.9	2.0	<0.01	0.33	0.48	3.3	0.44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW119P	01 Oct 2020	0382_MW119_P_201001	Normal	NSW_0382_PFASOMP_20		**1.22**	*4.32*	34.8	**39.1**	65.1	4.00	5.55	1.26	<0.02	0.7	1.73	10.4	1.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	03 Dec 2020	0382_MW119_P_201203	Normal	NSW_0382_PFASOMP_20		0.40	*2.65*	10.3	**13.0**	22.5	1.53	2.76	0.30	<0.02	0.4	0.59	3.16	0.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	25 Mar 2021	0382_MW119_P_210325	Normal	NSW_0382_PFASOMP_20		0.40	*1.89*	10.3	**12.2**	20.5	1.61	1.93	0.27	<0.02	0.3	0.51	2.95	0.38	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	07 Jun 2021	0382_MW119P_210607	Normal	NSW_0382_PFASOMP_20		**5.40**	*51.6*	114	**166**	277	16.3	26.0	6.42	<0.02	1.8	6.24	44.4	4.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.38	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	07 Sep 2021	0382_MW119P_210907	Normal	NSW_0382_PFASOMP_20		**6.40**	*69.5*	156	**226**	316	13.4	23.8	6.64	<0.02	1.35	4.32	29.5	4.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.42	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	06 Dec 2021	0382_MW119P_211206	Normal	NSW_0382_PFASOMP_20		**6.06**	*52.5*	130	**182**	250	9.30	15.4	7.23	<0.04	1.0	2.60	22.6	3.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.44	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	23 Mar 2022	0382_MW119P_220323	Normal	NSW_0382_PFASOMP_20		**9.02**	*156*	176	**332**	418	13.2	18.3	14.3	<0.04	1.0	2.48	23.9	3.58	0.05	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	0.40	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW119P	15 Jun 2022	0382_MW119P_220615	Normal	NSW_0382_PFASOMP_20		**13.4**	*200*	257	**457**	584	16.2	33.4	24.0	<0.05	1.6	3.54	28.8	5.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.32	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	05 Sep 2022	0382_MW119P_220905	Normal	NSW_0382_PFASOMP_20		**14.6**	*191*	247	**438**	562	13.7	36.0	31.5	<0.05	1.1	2.68	19.0	4.72	0.06	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.24	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	05 Dec 2022	0382_MW119P_221205	Normal	NSW_0382_PFASOMP_20		**11.6**	*206*	194	**400**	496	11.5	24.8	20.8	<0.02	0.8	2.50	19.9	3.84	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.20	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW119P	13 Mar 2023	0382_MW119P_230313	Normal	NSW_0382_PFASOMP_23		**6.16**	*230*	91.0	**321**	365	5.18	8.72	9.38	<0.05	0.9	1.53	10.3	1.92	0.08	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.18	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW119P	13 Jun 2023	0382_MW119P_230613	Normal	NSW_0382_PFASOMP_23		**4.37**	*178*	55.2	**233**	261	2.94	5.09	6.43	<0.02	0.5	1.00	6.24	1.17	0.06	<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
MW119P	11 Sep 2023	0382_MW119P_230911	Normal	NSW_0382_PFASOMP_23		**4.72**	*149*	55.6	**205**	240	5.00	7.85	6.99	<0.02	0.6	1.31	7.72	1.45	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.15	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW120	14 Mar 2018	0382_MW120_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW120	01 Oct 2020	0382_MW120_201001	Normal	NSW_0382_PFASOMP_20		<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
MW120	25 Mar 2021	0382_MW120_210325	Normal	NSW_0382_PFASOMP_20		<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
MW120	06 Sep 2021	0382_MW120_210906	Normal	NSW_0382_PFASOMP_20		<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
MW120	21 Mar 2022	0382_MW120_220321	Normal	NSW_0382_PFASOMP_20		<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
MW120	06 Sep 2022	0382_MW120_220906	Normal	NSW_0382_PFASOMP_20		<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
MW120	14 Mar 2023	0382_MW120_230314	Normal	NSW_0382_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
MW120	12 Sep 2023	0382_MW120_230912	Normal	NSW_0382_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
MW121	14 Mar 2018	0382_MW121_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14 Mar 2018	0382_QC101_180314	Field_D	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW121	14 Mar 2018	0382_QC201_180314	Interlab_D	NSW_0382_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
MW121	01 Oct 2020	0382_MW121_201001	Normal	NSW_0382_PFASOMP_20		<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
MW121	01 Oct 2020	0382_QC202_201001	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW121	25 Mar 2021	0382_MW121_210325	Normal	NSW_0382_PFASOMP_20		<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
MW121	06 Sep 2021	0382_MW121_210906	Normal	NSW_0382_PFASOMP_20		<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
MW121	21 Mar 2022	0382_MW121_220321	Normal	NSW_0382_PFASOMP_20		<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	06 Sep 2022	0382_MW121_220906	Normal	NSW_0382_PFASOMP_20		<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	14 Mar 2023	0382_MW121_230314	Normal	NSW_0382_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
MW121	12 Sep 2023	0382_MW121_230912	Normal	NSW_0382_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
MW122	14 Mar 2018	0382_MW122_180314	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW122	01 Oct 2020	0382_MW122_201001	Normal	NSW_0382_PFASOMP_20		<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
MW122	26 Mar 2021	0382_MW122_210326	Normal	NSW_0382_PFASOMP_20		<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
MW122	06 Sep 2022	0382_MW122_220906	Normal	NSW_0382_PFASOMP_20		<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
MW122	14 Mar 2023	0382_MW122_230314	Normal	NSW_0382_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
MW122	12 Sep 2023	0382_MW122_230912	Normal	NSW_0382_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
MW123	15 Mar 2018	0382_MW123_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW123	01 Oct 2020	0382_MW123_201001	Normal	NSW_0382_PFASOMP_20		<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
MW123	24 Mar 2021	0382_MW123_210324	Normal	NSW_0382_PFASOMP_20		<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
MW123	06 Sep 2021	0382_MW123_210906	Normal	NSW_0382_PFASOMP_20		<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
MW123	06 Sep 2021	0382_QC201_210906	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.01	<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	<0.1	<0.02	<0.5
MW123	22 Mar 2022	0382_MW123_220322	Normal	NSW_0382_PFASOMP_20		<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
MW123	22 Mar 2022	0382_QC102_220322	Field_D	NSW_0382_PFASOMP_20		<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
MW123	06 Sep 2022	0382_MW123_220906	Normal	NSW_0382_PFASOMP_20		<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
MW123	15 Mar 2023	0382_MW123_230315	Normal	NSW_0382_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
MW123	13 Sep 2023	0382_MW123_230913	Normal	NSW_0382_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	15 Mar 2018	0382_MW124_180315	Normal	NSW_0382_PFAS		<0.01	<0.01	0.02	0.02	<0.1	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW124	01 Oct 2020	0382_MW124_201001	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<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
MW124	24 Mar 2021	0382_MW124_210324	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	0.02	0.02	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

Table T6 - Groundwater Historical 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 95%						*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW124	06 Sep 2021	0382_MW124_210906	Normal	NSW_0382_PFASOMP_20		<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	06 Sep 2021	0382_QC200_210906	Interlab_D	NSW_0382_PFASOMP_20		<0.01	<0.01	0.01	0.01	0.05	0.03	<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
MW124	22 Mar 2022	0382_MW124_220322	Normal	NSW_0382_PFASOMP_20		<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	07 Sep 2022	0382_MW124_220907	Normal	NSW_0382_PFASOMP_20		<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	15 Mar 2023	0382_MW124_230315	Normal	NSW_0382_PFASOMP_23		<0.01	<0.01	<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
MW124	13 Sep 2023	0382_MW124_230913	Normal	NSW_0382_PFASOMP_23		<0.01	<0.01	0.02	0.02	0.08	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
MW129	17 Jul 2018	0382_MW129_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW129	01 Oct 2020	0382_MW129_201001	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	<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
MW129	03 Dec 2020	0382_MW129_201203	Normal	NSW_0382_PFASOMP_20		<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
MW129	25 Mar 2021	0382_MW129_210325	Normal	NSW_0382_PFASOMP_20		<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
MW129	07 Jun 2021	0382_MW129_210607	Normal	NSW_0382_PFASOMP_20		<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
MW129	07 Sep 2021	0382_MW129_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.04	0.02	0.06	0.06	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	06 Dec 2021	0382_MW129_211206	Normal	NSW_0382_PFASOMP_20		<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
MW129	23 Mar 2022	0382_MW129_220323	Normal	NSW_0382_PFASOMP_20		<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
MW129	15 Jun 2022	0382_MW129_220615	Normal	NSW_0382_PFASOMP_20		<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
MW129	05 Sep 2022	0382_MW129_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	<0.01	0.03	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
MW129	05 Dec 2022	0382_MW129_221205	Normal	NSW_0382_PFASOMP_20		<0.01	0.05	0.01	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
MW129	13 Mar 2023	0382_MW129_230313	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.02	**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
MW129	13 Jun 2023	0382_MW129_230613	Normal	NSW_0382_PFASOMP_23		<0.01	0.04	<0.01	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	11 Sep 2023	0382_MW129_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.02	**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
MW130	17 Jul 2018	0382_MW130_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	0.02	0.02	<0.1	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW130	01 Oct 2020	0382_MW130_201001	Normal	NSW_0382_PFASOMP_20		<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
MW130	03 Dec 2020	0382_MW130_201203	Normal	NSW_0382_PFASOMP_20		<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
MW130	25 Mar 2021	0382_MW130_210325	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Jun 2021	0382_MW130_210607	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Sep 2021	0382_MW130_210907	Normal	NSW_0382_PFASOMP_20		<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
MW130	07 Sep 2021	0382_QC103_210907	Field_D	NSW_0382_PFASOMP_20		<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
MW130	06 Dec 2021	0382_MW130_211206	Normal	NSW_0382_PFASOMP_20		<0.01	0.11	0.07	**0.18**	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	23 Mar 2022	0382_MW130_220323	Normal	NSW_0382_PFASOMP_20		<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
MW130	15 Jun 2022	0382_MW130_220615	Normal	NSW_0382_PFASOMP_20		<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
MW130	15 Jun 2022	0382_QC100_220615	Field_D	NSW_0382_PFASOMP_20		<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
MW130	05 Sep 2022	0382_MW130_220905	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	0.04	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
MW130	05 Sep 2022	0382_QC101_220905	Field_D	NSW_0382_PFASOMP_20		<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
MW130	05 Dec 2022	0382_MW130_221205	Normal	NSW_0382_PFASOMP_20		<0.01	0.10	0.04	**0.14**	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW130	05 Dec 2022	0382_QC200_221205	Interlab_D	NSW_0382_PFASOMP_20		<0.01	*0.16*	0.07	**0.24**	0.27	0.02	0.02	<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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW130	13 Mar 2023	0382_MW130_230313	Normal	NSW_0382_PFASOMP_23		0.01	0.05	0.06	**0.11**	0.19	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
MW130	13 Jun 2023	0382_MW130_230613	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.05	**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
MW130	13 Jun 2023	0382_QC100_230613	Field_D	NSW_0382_PFASOMP_23		<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
MW130	13 Jun 2023	0382_QC200_230613	Interlab_D	NSW_0382_PFASOMP_23		<0.01	<0.01	0.03	0.03	0.03	<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
MW130	11 Sep 2023	0382_MW130_230911	Normal	NSW_0382_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
MW130	11 Sep 2023	0382_QC100_230911	Field_D	NSW_0382_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
MW130	11 Sep 2023	0382_QC200_2309	Interlab_D	NSW_0382_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
MW131	17 Jul 2018	0382_MW131_180717	Normal	NSW_0382_PFAS		<0.01	<0.01	0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW131	01 Oct 2020	0382_MW131_201001	Normal	NSW_0382_PFASOMP_20		<0.01	0.08	0.03	**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
MW131	03 Dec 2020	0382_MW131_201203	Normal	NSW_0382_PFASOMP_20		<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
MW131	25 Mar 2021	0382_MW131_210325	Normal	NSW_0382_PFASOMP_20		<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
MW131	07 Jun 2021	0382_MW131_210607	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	<0.02	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
MW131	07 Jun 2021	0382_QC200_210607	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.078	<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
MW131	07 Sep 2021	0382_MW131_210907	Normal	NSW_0382_PFASOMP_20		<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
MW131	06 Dec 2021	0382_MW131_211206	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.01	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	06 Dec 2021	0382_QC200_211206	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.02	<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
MW131	23 Mar 2022	0382_MW131_220323	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.02	**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

Table T6 - Groundwater Historical 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 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
MW131	15 Jun 2022	0382_MW131_220615	Normal	NSW_0382_PFASOMP_20	<0.01	0.09	0.02	**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
MW131	05 Sep 2022	0382_MW131_220905	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.02	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
MW131	05 Sep 2022	0382_QC201_2209	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.03	0.01	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	<0.02	<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
MW131	05 Dec 2022	0382_MW131_221205	Normal	NSW_0382_PFASOMP_20	<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
MW131	13 Mar 2023	0382_MW131_230313	Normal	NSW_0382_PFASOMP_23	0.01	*0.19*	0.04	**0.23**	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
MW131	13 Mar 2023	0382_QC100_230313	Field_D	NSW_0382_PFASOMP_23	<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
MW131	13 Mar 2023	0382_QC200_230313	Interlab_D	NSW_0382_PFASOMP_23	<0.01	0.1	0.03	**0.13**	0.14	<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
MW131	13 Jun 2023	0382_MW131_230613	Normal	NSW_0382_PFASOMP_23	<0.01	*0.40*	0.04	**0.44**	0.44	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	11 Sep 2023	0382_MW131_230911	Normal	NSW_0382_PFASOMP_23	<0.01	0.13	0.03	**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
MW133	07 Sep 2021	0382_MW133_210907	Normal	NSW_0382_PFASOMP_20	0.05	*4.06*	1.58	**5.64**	9.19	0.41	0.12	0.07	<0.02	0.6	0.45	1.81	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
MW133	06 Dec 2021	0382_MW133_211206	Normal	NSW_0382_PFASOMP_20	**2.88**	*168*	22.0	**190**	208	1.15	0.97	6.37	<0.04	1.0	0.92	4.82	0.36	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW133	23 Mar 2022	0382_MW133_220323	Normal	NSW_0382_PFASOMP_20	0.03	*2.59*	1.84	**4.43**	5.92	0.22	0.26	0.03	<0.02	0.1	0.29	0.53	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
MW133	15 Jun 2022	0382_MW133_220615	Normal	NSW_0382_PFASOMP_20	**4.80**	*765*	42.7	**808**	848	2.58	3.78	12.7	<0.05	1.6	2.54	10.9	0.84	0.07	<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
MW133	05 Sep 2022	0382_MW133_220905	Normal	NSW_0382_PFASOMP_20	**3.39**	*530*	31.3	**561**	588	1.32	2.71	10.7	<0.05	1.2	1.40	5.94	0.50	<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
MW133	05 Dec 2022	0382_MW133_221205	Normal	NSW_0382_PFASOMP_20	**2.69**	*1,030*	29.5	**1,060**	1,090	1.30	3.34	11.1	<0.02	0.9	1.44	7.76	0.43	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW133	13 Mar 2023	0382_MW133_230313	Normal	NSW_0382_PFASOMP_23	**4.12**	*666*	33.8	**700**	740	2.05	3.08	17.3	<0.05	1.7	2.08	8.92	0.69	0.10	<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
MW133	13 Jun 2023	0382_MW133_230613	Normal	NSW_0382_PFASOMP_23	**3.44**	*536*	32.2	**568**	600	1.78	2.53	13.3	<0.02	1.3	1.68	7.65	0.56	0.06	<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
MW133	11 Sep 2023	0382_MW133_230911	Normal	NSW_0382_PFASOMP_23	**3.51**	*587*	29.2	**616**	645	1.55	2.70	8.38	<0.02	1.3	1.88	9.09	0.56	0.06	<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
MW134	25 Mar 2021	0382_MW134P_210325	Normal	NSW_0382_PFASOMP_20	0.02	*0.41*	0.48	**0.89**	1.77	0.10	0.07	<0.02	0.07	0.2	0.16	0.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	25 Mar 2021	0382_QC200_210325	Interlab_D	NSW_0382_PFASOMP_20	0.018	*0.35*	0.38	-	-	0.085	0.062	<0.01	<0.01	0.17	0.13	0.17	0.011	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW134	07 Jun 2021	0382_MW134_210607	Normal	NSW_0382_PFASOMP_20	0.03	*0.44*	1.16	**1.60**	2.82	0.23	0.26	0.02	<0.02	0.1	0.16	0.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	15 Jun 2022	0382_MW134_220615	Normal	NSW_0382_PFASOMP_20	0.02	*0.52*	1.04	**1.56**	3.29	0.31	0.24	<0.02	<0.02	0.3	0.28	0.56	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	05 Sep 2022	0382_MW134_220905	Normal	NSW_0382_PFASOMP_20	0.02	*0.36*	0.95	**1.31**	2.92	0.22	0.23	<0.02	<0.02	0.3	0.29	0.55	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	05 Dec 2022	0382_MW134_221205	Normal	NSW_0382_PFASOMP_20	0.02	*0.29*	0.87	**1.16**	2.56	0.20	0.19	0.02	<0.02	0.2	0.25	0.52	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW134	13 Mar 2023	0382_MW134_230313	Normal	NSW_0382_PFASOMP_23	0.02	*0.32*	0.63	**0.95**	2.08	0.16	0.14	<0.02	<0.02	0.2	0.18	0.43	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	18 Dec 2020	0382_MW136_201218	Normal	NSW_0382_PFAS	<0.002	0.016	0.016	0.032	0.129	0.008	0.004	<0.002	<0.002	<0.01	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.082	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005
MW136	07 Jun 2021	0382_MW136_210607	Normal	NSW_0382_PFASOMP_20	<0.01	0.11	0.04	**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
MW136	07 Sep 2021	0382_MW136_210907	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.11	**0.15**	0.29	0.06	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
MW136	06 Dec 2021	0382_MW136_211206	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.08	**0.13**	0.24	0.06	0.03	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	23 Mar 2022	0382_MW136_220323	Normal	NSW_0382_PFASOMP_20	0.02	0.03	0.30	**0.33**	0.74	0.08	0.06	<0.02	<0.02	0.1	0.03	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15 Jun 2022	0382_MW136_220615	Normal	NSW_0382_PFASOMP_20	0.03	0.06	0.64	**0.70**	1.33	0.18	0.16	<0.02	<0.02	<0.1	0.05	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW136	15 Jun 2022	0382_QC200_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.46	**0.51**	0.99	0.13	0.13	<0.01	<0.02	0.03	0.03	0.12	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
MW136	05 Sep 2022	0382_MW136_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.08	0.32	**0.40**	0.63	0.07	0.08	<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
MW136	05 Dec 2022	0382_MW136_221205	Normal	NSW_0382_PFASOMP_20	<0.01	0.11	0.20	**0.31**	0.50	0.07	0.06	<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
MW136	13 Mar 2023	0382_MW136_230313	Normal	NSW_0382_PFASOMP_23	<0.01	0.09	0.16	**0.25**	0.42	0.06	0.05	<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
MW136	13 Jun 2023	0382_MW136_230613	Normal	NSW_0382_PFASOMP_23	0.01	*0.23*	0.15	**0.38**	0.55	0.07	0.05	<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
MW136	11 Sep 2023	0382_MW136_230911	Normal	NSW_0382_PFASOMP_23	<0.01	0.06	0.05	**0.11**	0.15	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW301	19 Feb 2018	0382_MW1_180219	Normal	NSW_0382_PFAS	0.02	0.10	0.72	**0.82**	0.96	0.03	0.04	<0.01	<0.01	<0.05	0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW301	01 Oct 2020	0382_MW301_201001	Normal	NSW_0382_PFASOMP_20	0.01	*0.16*	0.09	**0.25**	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW301	26 Mar 2021	0382_MW301_210326	Normal	NSW_0382_PFASOMP_20	0.01	0.08	0.06	**0.14**	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
MW301	06 Sep 2021	0382_MW301_210906	Normal	NSW_0382_PFASOMP_20	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW301	06 Sep 2021	0382_QC101_210906	Field_D	NSW_0382_PFASOMP_20	<0.01	0.07	0.05	**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
MW301	21 Mar 2022	0382_MW301_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.04	0.12	**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
MW301	06 Sep 2022	0382_MW301_220906	Normal	NSW_0382_PFASOMP_20	<0.01	0.03	0.09	**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
MW301	14 Mar 2023	0382_MW301_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.02	0.05	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
MW301	12 Sep 2023	0382_MW301_230912	Normal	NSW_0382_PFASOMP_23	<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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW323	16 Feb 2018	0382_BH345_180216	Normal	NSW_0382_PFAS	<0.01	0.09	<0.01	**0.09**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16 Feb 2018	0382_QC101_180216	Field_D	NSW_0382_PFAS	<0.01	0.09	<0.01	**0.09**	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW323	16 Feb 2018	0382_QC201_180216	Interlab_D	NSW_0382_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
MW323	01 Oct 2020	0382_MW323_201001	Normal	NSW_0382_PFASOMP_20	<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
MW323	24 Mar 2021	0382_MW323_210324	Normal	NSW_0382_PFASOMP_20	<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
MW323	06 Sep 2021	0382_MW323_210906	Normal	NSW_0382_PFASOMP_20	<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 T6 - Groundwater Historical 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 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
MW323	22 Mar 2022	0382_MW323_220322	Normal	NSW_0382_PFASOMP_20			<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
MW323	22 Mar 2022	0382_QC101_220322	Field_D	NSW_0382_PFASOMP_20			<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
MW323	07 Sep 2022	0382_MW323_220907	Normal	NSW_0382_PFASOMP_20			<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
MW323	15 Mar 2023	0382_MW323_230315	Normal	NSW_0382_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
MW323	13 Sep 2023	0382_MW323_230913	Normal	NSW_0382_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
MW330	07 Feb 2018	0382_BH365_180207	Normal	NSW_0382_PFAS			**0.98**	0.05	44	**44.05**	82.22	3.4	7.7	0.49	<0.01	1.6	3.2	19	1.8	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_BH365_180227	Normal	NSW_0382_PFAS			**1.3**	0.03	40	**40.03**	63.81	1.7	5.1	0.48	<0.01	1.1	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_QC101_180227	Field_D	NSW_0382_PFAS			**1.3**	0.03	39	**39.03**	62.2	1.7	4.6	0.47	<0.01	1.0	1.9	11	1.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW330	27 Feb 2018	0382_QC201_180227	Interlab_D	NSW_0382_PFAS			**1.45**	0.04	25.8	**25.8**	44.3	1.11	3.13	0.40	<0.02	<0.1	1.23	10.0	1.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	22 Mar 2022	0382_MW330_220322	Normal	NSW_0382_PFASOMP_20			**3.90**	*3.78*	57.9	**61.7**	103	2.62	6.27	2.20	<0.02	1.1	3.00	20.4	1.56	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	22 Mar 2022	0382_QC202_220322	Interlab_D	NSW_0382_PFASOMP_20			**3.9**	*4.2*	63	**67**	110	2.1	6.4	2.9	<0.02	1.5	2.6	17	1.6	<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
MW330	05 Sep 2022	0382_MW330_220905	Normal	NSW_0382_PFASOMP_20			**3.24**	*10.3*	26.8	**37.1**	56.5	0.71	3.13	2.74	<0.02	0.5	1.10	7.30	0.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	14 Mar 2023	0382_MW330_230314	Normal	NSW_0382_PFASOMP_23			**8.38**	*23.4*	106	**129**	196	3.50	10.2	5.16	<0.02	2.2	4.78	29.3	2.64	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	12 Sep 2023	0382_MW330_230912	Normal	NSW_0382_PFASOMP_23			**4.79**	*17.6*	56.5	**74.1**	113	1.70	6.10	3.11	<0.02	1.2	2.78	17.4	1.42	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW330	12 Sep 2023	0382_QC103_230912	Field_D	NSW_0382_PFASOMP_23			**4.55**	*15.3*	54.4	**69.7**	108	1.86	7.06	2.85	<0.04	1.2	2.59	16.5	1.66	<0.04	<0.04	<0.04	<0.04	<0.04	<0.10	<0.05	<0.05	<0.05	<0.05	<0.04	<0.10	<0.04	<0.10	<0.10	<0.04	<0.10
MW330	12 Sep 2023	0382_QC203_2309	Interlab_D	NSW_0382_PFASOMP_23			**5.1**	*14*	64	**77**	120	2.6	7.2	4.3	<0.02	1.6	3.1	18	1.9	<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
MW349	12 Feb 2018	0382_BH612_180212	Normal	NSW_0382_PFAS			0.01	0.1	0.2	**0.3**	0.41	0.02	0.03	0.02	<0.01	<0.05	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW349	01 Oct 2020	0382_MW349_201001	Normal	NSW_0382_PFASOMP_20			0.01	0.12	0.28	**0.40**	0.51	0.03	0.04	<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
MW349	24 Mar 2021	0382_MW349_210324	Normal	NSW_0382_PFASOMP_20			<0.01	0.06	0.16	**0.22**	0.27	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
MW349	06 Sep 2021	0382_MW349_210906	Normal	NSW_0382_PFASOMP_20			<0.01	0.10	0.23	**0.33**	0.42	0.03	0.04	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW349	22 Mar 2022	0382_MW349_220322	Normal	NSW_0382_PFASOMP_20			<0.01	0.02	0.06	**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
MW349	22 Mar 2022	0382_QC201_220322	Interlab_D	NSW_0382_PFASOMP_20			<0.01	0.03	0.06	**0.09**	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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
MW349	06 Sep 2022	0382_MW349_220906	Normal	NSW_0382_PFASOMP_20			<0.01	0.05	0.31	**0.36**	0.52	0.06	0.07	<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
MW349	15 Mar 2023	0382_MW349_230315	Normal	NSW_0382_PFASOMP_23			0.01	0.05	0.32	**0.37**	0.55	0.06	0.08	<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
MW349	13 Sep 2023	0382_MW349_230913	Normal	NSW_0382_PFASOMP_23			0.01	0.07	0.30	**0.37**	0.51	0.05	0.05	<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

Notes

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

Table T7 - Surface Water Historical 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						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Recreational Water						**10**			**2**																										
PFAS NEMP 2020 Freshwater 95%						*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW001	15 Mar 2018	0382_SW001_180315	Normal	NSW_0382_PFAS		0.86	*3.9*	6.9	**10.8**	18.04	0.36	1.0	0.36	0.04	0.41	0.92	2.7	0.45	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW001	25 Mar 2021	0382_SW001_210325	Normal	NSW_0382_PFASOMP_20		0.03	*0.65*	0.58	1.23	1.62	0.04	0.04	<0.02	<0.02	<0.1	0.09	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Jun 2021	0382_SW001_210607	Normal	NSW_0382_PFASOMP_20		<0.01	0.13	0.06	0.19	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	07 Sep 2021	0382_SW001_210907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.04	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
SW001	06 Dec 2021	0382_SW001_211206	Normal	NSW_0382_PFASOMP_20		0.05	*0.76*	0.50	1.26	1.80	0.06	0.04	0.02	<0.02	<0.1	0.12	0.22	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
SW001	06 Dec 2021	0382_QC101_211206	Field_D	NSW_0382_PFASOMP_20		0.04	*0.72*	0.49	1.21	1.72	0.05	0.04	0.02	<0.02	<0.1	0.11	0.22	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
SW001	23 Mar 2022	0382_SW001_220323	Normal	NSW_0382_PFASOMP_20		0.02	*0.27*	0.15	0.42	0.49	<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
SW001	15 Jun 2022	0382_SW001_220615	Normal	NSW_0382_PFASOMP_20		0.07	*2.06*	0.67	**2.73**	3.47	0.07	0.06	0.04	<0.02	<0.1	0.09	0.24	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Sep 2022	0382_SW001_220905	Normal	NSW_0382_PFASOMP_20		0.02	*0.87*	0.15	1.02	1.15	<0.02	<0.02	<0.02	0.03	<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	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	05 Dec 2022	0382_SW001_221205	Normal	NSW_0382_PFASOMP_20		0.04	*1.04*	0.35	1.39	1.80	0.03	0.04	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	0.03	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	15 Mar 2023	0382_SW001_230315	Normal	NSW_0382_PFASOMP_23		0.01	*0.26*	0.12	0.38	0.45	<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
SW001	11 Sep 2023	0382_SW001_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.11	0.02	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
SW009	26 Sep 2017	0382_SW009_170926	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW009	30 Sep 2020	0382_SW009_200930	Normal	NSW_0382_PFASOMP_20		0.01	*0.17*	0.25	0.42	0.57	0.04	0.04	<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
SW009	30 Sep 2020	0382_QC101_200930	Field_D	NSW_0382_PFASOMP_20		0.01	*0.20*	0.28	0.48	0.66	0.05	0.05	<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
SW009	26 Mar 2021	0382_SW009_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.12	0.21	0.25	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	06 Sep 2021	0382_SW009_210906	Normal	NSW_0382_PFASOMP_20		0.01	0.13	0.18	0.31	0.44	0.03	0.04	<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
SW009	22 Mar 2022	0382_SW009_220322	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	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
SW009	22 Mar 2022	0382_QC103_220322	Field_D	NSW_0382_PFASOMP_20		<0.01	0.09	0.07	0.16	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	07 Sep 2022	0382_SW009_220907	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.09	0.18	0.21	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	13 Mar 2023	0382_SW009_230313	Normal	NSW_0382_PFASOMP_23		0.01	*0.19*	0.13	0.32	0.36	<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
SW009	11 Sep 2023	0382_SW009_230911	Normal	NSW_0382_PFASOMP_23		0.01	*0.16*	0.13	0.29	0.34	<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
SW011	27 Sep 2017	0382_SW011_170927	Normal	NSW_0382_PFAS		<0.01	0.04	0.03	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW011	30 Sep 2020	0382_SW011_200930	Normal	NSW_0382_PFASOMP_20		<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
SW011	26 Mar 2021	0382_SW011_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.08	0.08	0.16	0.20	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW011	08 Sep 2021	0382_SW011_210908	Normal	NSW_0382_PFASOMP_20		<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
SW011	21 Mar 2022	0382_SW011_220321	Normal	NSW_0382_PFASOMP_20		0.16	*0.24*	3.28	**3.52**	4.77	0.11	0.18	0.03	<0.02	<0.1	0.10	0.60	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW011	06 Sep 2022	0382_SW011_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.10	0.22	0.25	<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
SW011	15 Mar 2023	0382_SW011_230315	Normal	NSW_0382_PFASOMP_23		0.01	0.07	0.07	0.14	0.17	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW011	12 Sep 2023	0382_SW011_230912	Normal	NSW_0382_PFASOMP_23		<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
SW012	27 Sep 2017	0382_SW012_170927	Normal	NSW_0382_PFAS		<0.01	0.02	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW012	30 Sep 2020	0382_SW012_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	06 Sep 2021	0382_SW012_210906	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW012	21 Mar 2022	0382_SW012_220321	Normal	NSW_0382_PFASOMP_20		<0.01	0.06	0.06	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
SW012	06 Sep 2022	0382_SW012_220906	Normal	NSW_0382_PFASOMP_20		<0.01	0.12	0.10	0.22	0.25	<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
SW012	14 Mar 2023	0382_SW012_230314	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.02	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
SW012	12 Sep 2023	0382_SW012_230912	Normal	NSW_0382_PFASOMP_23		<0.01	0.03	0.02	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
SW014	27 Sep 2017	0382_SW014_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW014	30 Sep 2020	0382_SW014_200930	Normal	NSW_0382_PFASOMP_20		<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	30 Sep 2020	0382_QC100_200930	Field_D	NSW_0382_PFASOMP_20		<0.01	0.04	0.03	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
SW014	26 Mar 2021	0382_SW014_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.02	<0.02	0.02	0.07	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
SW014	08 Sep 2021	0382_SW014_210908	Normal	NSW_0382_PFASOMP_20		<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
SW014	22 Mar 2022	0382_SW014_220322	Normal	NSW_0382_PFASOMP_20		<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
SW014	07 Sep 2022	0382_SW014_220907	Normal	NSW_0382_PFASOMP_20		<0.01	0.09	0.06	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
SW014	15 Mar 2023	0382_SW014_230315	Normal	NSW_0382_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
SW015	26 Sep 2017	0382_SW015_170926	Normal	NSW_0382_PFAS		0.01	0.07	0.08	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW015	30 Sep 2020	0382_SW015_200930	Normal	NSW_0382_PFASOMP_20		<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
SW015	25 Mar 2021	0382_SW015_210325	Normal	NSW_0382_PFASOMP_20		<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
SW015	25 Mar 2021	0382_QC101_210325	Field_D	NSW_0382_PFASOMP_20		<0.01	0.02	0.02	0.04	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
SW015	08 Sep 2021	0382_SW015_210908	Normal	NSW_0382_PFASOMP_20		<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
SW015	22 Mar 2022	0382_SW015_220322	Normal	NSW_0382_PFASOMP_20		<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
SW015	22 Mar 2022	0382_QC203_220322	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	0.08	0.08	<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

Table T7 - Surface Water Historical 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	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Recreational Water							**10**			**2**																										
PFAS NEMP 2020 Freshwater 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW015	07 Sep 2022	0382_SW015_220907	Normal	NSW_0382_PFASOMP_20		<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
SW015	13 Mar 2023	0382_SW015_230313	Normal	NSW_0382_PFASOMP_23		0.01	0.07	0.08	0.15	0.18	<0.02	<0.02	<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
SW015	11 Sep 2023	0382_SW015_230911	Normal	NSW_0382_PFASOMP_23		<0.01	0.05	0.03	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
SW017	27 Sep 2017	0382_SW017_170927	Normal	NSW_0382_PFAS		<0.01	0.03	0.02	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW017	30 Sep 2020	0382_SW017_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.11	0.04	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
SW017	26 Mar 2021	0382_SW017_210326	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.02	0.05	0.08	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
SW017	26 Mar 2021	0382_QC201_210326	Interlab_D	NSW_0382_PFASOMP_20		<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	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW017	08 Sep 2021	0382_SW017_210908	Normal	NSW_0382_PFASOMP_20		<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
SW017	21 Mar 2022	0382_SW017_220321	Normal	NSW_0382_PFASOMP_20		<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
SW017	06 Sep 2022	0382_SW017_220906	Normal	NSW_0382_PFASOMP_20		<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
SW017	14 Mar 2023	0382_SW017_230314	Normal	NSW_0382_PFASOMP_23		<0.01	0.06	0.06	0.12	0.14	<0.02	<0.02	<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
SW017	12 Sep 2023	0382_SW017_230912	Normal	NSW_0382_PFASOMP_23		<0.01	0.04	0.03	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
SW025	15 Jun 2016	HBK-QA01	Normal	ACTNSW_Hist_202009-2		<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-
SW025	15 Jun 2016	HBK-SW001	Normal	ACTNSW_Hist_202009-2		<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
SW025	26 Sep 2017	0382_SW025_170926	Normal	NSW_0382_PFAS		<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW025	30 Sep 2020	0382_SW025_200930	Normal	NSW_0382_PFASOMP_20		<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
SW025	25 Mar 2021	0382_SW025_210325	Normal	NSW_0382_PFASOMP_20		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
SW025	08 Sep 2021	0382_SW025_210908	Normal	NSW_0382_PFASOMP_20		<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
SW025	22 Mar 2022	0382_SW025_220322	Normal	NSW_0382_PFASOMP_20		<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
SW025	05 Sep 2022	0382_SW025_220905	Normal	NSW_0382_PFASOMP_20		<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
SW025	05 Sep 2022	0382_QC103_220905	Field_D	NSW_0382_PFASOMP_20		<0.01	0.03	0.04	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
SW025	13 Mar 2023	0382_SW025_230313	Normal	NSW_0382_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
SW025	11 Sep 2023	0382_SW025_230911	Normal	NSW_0382_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
SW030	09 Mar 2018	0382_SW030_180309	Normal	NSW_0382_PFAS		<0.01	0.03	0.07	0.1	0.16	0.01	0.01	<0.01	<0.01	<0.05	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW030	30 Sep 2020	0382_SW030_200930	Normal	NSW_0382_PFASOMP_20		<0.01	0.03	0.11	0.14	0.14	<0.02	<0.02	<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
SW030	24 Mar 2021	0382_SW030_210324	Normal	NSW_0382_PFASOMP_20		0.04	*0.78*	0.79	1.57	2.19	0.10	0.09	0.03	<0.02	<0.1	0.08	0.28	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW030	07 Sep 2021	0382_SW030_210907	Normal	NSW_0382_PFASOMP_20		0.07	*1.52*	2.66	**4.18**	5.45	0.29	0.40	0.10	<0.02	<0.1	0.04	0.33	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
SW030	07 Sep 2021	0382_QC102_210907	Field_D	NSW_0382_PFASOMP_20		0.07	*1.58*	2.72	**4.30**	5.59	0.31	0.40	0.11	<0.02	<0.1	0.03	0.33	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
SW030	22 Mar 2022	0382_SW030_220322	Normal	NSW_0382_PFASOMP_20		0.04	*0.74*	0.47	1.21	1.70	0.07	0.06	0.02	<0.02	<0.1	0.08	0.20	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW030	22 Mar 2022	0382_QC200_220322	Interlab_D	NSW_0382_PFASOMP_20		0.03	*0.83*	0.58	1.4	1.9	0.06	0.07	0.03	<0.02	0.05	0.06	0.20	0.02	<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
SW030	15 Mar 2023	0382_SW030_230315	Normal	NSW_0382_PFASOMP_23		0.02	*0.80*	0.92	1.72	2.10	0.10	0.11	0.03	<0.02	<0.1	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW038	08 Mar 2018	0382_SW038_180308	Normal	NSW_0382_PFAS		0.01	*0.32*	0.22	0.54	0.65	0.02	0.03	<0.01	<0.01	<0.05	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW038	24 Mar 2021	0382_SW038_210324	Normal	NSW_0382_PFASOMP_20		0.03	*0.46*	0.53	0.99	1.42	0.06	0.05	0.02	<0.02	<0.1	0.12	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
SW038	06 Sep 2021	0382_SW038_210906	Normal	NSW_0382_PFASOMP_20		<0.01	*0.21*	0.26	0.47	0.58	0.03	0.04	<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
SW038	06 Sep 2021	0382_QC100_210906	Field_D	NSW_0382_PFASOMP_20		<0.01	*0.19*	0.25	0.44	0.55	0.03	0.04	<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
SW038	22 Mar 2022	0382_SW038_220322	Normal	NSW_0382_PFASOMP_20		0.01	*0.25*	0.16	0.41	0.53	0.02	0.02	<0.02	<0.02	<0.1	0.03	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
SW038	22 Mar 2022	0382_QC100_220322	Field_D	NSW_0382_PFASOMP_20		0.01	*0.20*	0.17	0.37	0.45	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
SW038	07 Sep 2022	0382_SW038_220907	Normal	NSW_0382_PFASOMP_20		0.02	*0.44*	0.46	0.90	1.16	0.05	0.06	<0.02	<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
SW038	15 Mar 2023	0382_SW038_230315	Normal	NSW_0382_PFASOMP_23		<0.01	*0.20*	0.21	0.41	0.51	0.03	0.03	<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
SW059	01 Mar 2018	0382_SW059_180301	Normal	NSW_0382_PFAS		0.02	0.07	0.06	0.13	0.18	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW059	30 Sep 2020	0382_SW059_200930	Normal	NSW_0382_PFASOMP_20		0.02	0.11	0.07	0.18	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	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	03 Dec 2020	0382_SW059_201203	Normal	NSW_0382_PFASOMP_20		0.02	0.08	0.05	0.13	0.18	<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
SW059	25 Mar 2021	0382_SW059_210325	Normal	NSW_0382_PFASOMP_20		0.01	0.11	0.07	0.18	0.22	<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
SW059	07 Jun 2021	0382_SW059_210607	Normal	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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
SW059	07 Jun 2021	0382_QC101_210607	Field_D	NSW_0382_PFASOMP_20		0.01	0.09	0.05	0.14	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
SW059	07 Jun 2021	0382_QC201_210607	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.069	0.044	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.019	<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
SW059	07 Sep 2021	0382_SW059_210907	Normal	NSW_0382_PFASOMP_20		<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
SW059	07 Sep 2021	0382_QC203_210907	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.05	0.04	0.09	0.09	<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
SW059	06 Dec 2021	0382_SW059_211206	Normal	NSW_0382_PFASOMP_20		<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
SW059	06 Dec 2021	0382_QC201_211206	Interlab_D	NSW_0382_PFASOMP_20		<0.01	0.07	0.04	0.11	0.13	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW059	23 Mar 2022	0382_SW059_220323	Normal	NSW_0382_PFASOMP_20		0.01	*0.15*	0.06	0.21	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
SW059	15 Jun 2022	0382_SW059_220615	Normal	NSW_0382_PFASOMP_20		0.02	*0.16*	0.16	0.32	0.42	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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

Table T7 - Surface Water Historical 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							0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Recreational Water							**10**			**2**																									
PFAS NEMP 2020 Freshwater 95%							*220*	*0.13*																											
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																															
SW059	15 Jun 2022	0382_QC101_220615	Field_D	NSW_0382_PFASOMP_20			0.02	0.13	0.14	0.27	0.36	<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
SW059	05 Sep 2022	0382_SW059_220905	Normal	NSW_0382_PFASOMP_20			0.01	0.06	0.05	0.11	0.14	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Sep 2022	0382_QC102_220905	Field_D	NSW_0382_PFASOMP_20			0.01	0.06	0.04	0.10	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
SW059	05 Dec 2022	0382_SW059_221205	Normal	NSW_0382_PFASOMP_20			<0.01	0.10	0.05	0.15	0.17	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW059	05 Dec 2022	0382_QC101_221205	Field_D	NSW_0382_PFASOMP_20			<0.01	0.09	0.05	0.14	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
SW059	13 Mar 2023	0382_SW059_230313	Normal	NSW_0382_PFASOMP_23			0.01	0.08	0.05	0.13	0.21	<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
SW059	13 Mar 2023	0382_QC101_230313	Field_D	NSW_0382_PFASOMP_23			<0.01	0.06	0.04	0.10	0.13	<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
SW059	13 Mar 2023	0382_QC201_230313	Interlab_D	NSW_0382_PFASOMP_23			0.02	0.07	0.05	0.13	0.21	<0.01	<0.01	<0.01	<0.02	<0.02	0.03	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
SW059	13 Jun 2023	0382_SW059_230613	Normal	NSW_0382_PFASOMP_23			0.01	0.08	0.07	0.15	0.23	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	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
SW059	11 Sep 2023	0382_SW059_230911	Normal	NSW_0382_PFASOMP_23			<0.01	0.05	0.03	0.08	0.11	<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
SW059	11 Sep 2023	0382_QC101_230911	Field_D	NSW_0382_PFASOMP_23			<0.01	0.03	0.03	0.06	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
SW059	11 Sep 2023	0382_QC201_2309	Interlab_D	NSW_0382_PFASOMP_23			<0.01	0.03	0.03	0.06	0.09	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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
SW062	05 Mar 2018	0382_SW062_180305	Normal	NSW_0382_PFAS			0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW062	30 Sep 2020	0382_SW062_200930	Normal	NSW_0382_PFASOMP_20			<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
SW062	08 Sep 2021	0382_SW062_210908	Normal	NSW_0382_PFASOMP_20			<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
SW062	22 Mar 2022	0382_SW062_220322	Normal	NSW_0382_PFASOMP_20			<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
SW062	05 Sep 2022	0382_SW062_220905	Normal	NSW_0382_PFASOMP_20			<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
SW062	05 Sep 2022	0382_QC203_2209	Interlab_D	NSW_0382_PFASOMP_20			<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
SW062	13 Mar 2023	0382_SW062_230313	Normal	NSW_0382_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
SW062	11 Sep 2023	0382_SW062_230911	Normal	NSW_0382_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
SW063	18 Apr 2018	0382_SW063_180418	Normal	NSW_0382_PFAS			<0.01	0.01	<0.01	0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW063	08 Sep 2021	0382_SW063_210908	Normal	NSW_0382_PFASOMP_20			<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
SW063	21 Mar 2022	0382_SW063_220321	Normal	NSW_0382_PFASOMP_20			<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
SW063	07 Sep 2022	0382_SW063_220907	Normal	NSW_0382_PFASOMP_20			<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
SW063	14 Mar 2023	0382_SW063_230314	Normal	NSW_0382_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
SW063	14 Mar 2023	0382_QC103_230314	Field_D	NSW_0382_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
SW063	14 Mar 2023	0382_QC203_230314	Interlab_D	NSW_0382_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
SW063	12 Sep 2023	0382_SW063_230912	Normal	NSW_0382_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
SW103	15 Jun 2018	0382_SW103_180615	Normal	NSW_0382_PFAS			<0.05	*0.21*	0.08	0.29	0.31	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	15 Jun 2018	0382_QC102_180615	Field_D	NSW_0382_PFAS			<0.01	*0.22*	0.07	0.29	0.31	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW103	15 Jun 2018	0382_QC202_180615	Interlab_D	NSW_0382_PFAS			<0.01	*0.16*	0.07	0.23	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	30 Sep 2020	0382_SW103_200930	Normal	NSW_0382_PFASOMP_20			0.02	*0.15*	0.03	0.18	0.56	<0.02	<0.02	<0.02	<0.02	<0.1	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.13	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	30 Sep 2020	0382_QC201_200930	Interlab_D	NSW_0382_PFASOMP_20			0.019	0.1	0.022	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	0.11	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW103	24 Mar 2021	0382_SW103_210324	Normal	NSW_0382_PFASOMP_20			<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
SW103	07 Sep 2021	0382_SW103_210907	Normal	NSW_0382_PFASOMP_20			0.01	*0.15*	0.06	0.21	0.30	0.05	<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
SW103	07 Sep 2021	0382_QC202_210907	Interlab_D	NSW_0382_PFASOMP_20			0.02	*0.15*	0.07	0.21	0.33	0.02	<0.01	<0.01	<0.02	<0.02	<0.02	0.03	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.01	<0.01	0.04	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW103	21 Mar 2022	0382_SW103_220321	Normal	NSW_0382_PFASOMP_20			<0.01	0.04	0.02	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
SW103	05 Sep 2022	0382_SW103_220905	Normal	NSW_0382_PFASOMP_20			<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
SW103	14 Mar 2023	0382_SW103_230314	Normal	NSW_0382_PFASOMP_23			<0.01	0.10	0.06	0.16	0.18	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW103	12 Sep 2023	0382_SW103_230912	Normal	NSW_0382_PFASOMP_23			<0.01	0.06	0.10	0.16	0.23	0.04	<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
SW104	15 Jun 2018	0382_SW104_180615	Normal	NSW_0382_PFAS			<0.05	*0.15*	0.07	0.22	0.23	<0.01	<0.01	<0.05	<0.01	<0.05	<0.01	0.01	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW104	30 Sep 2020	0382_SW104_200930	Normal	NSW_0382_PFASOMP_20			0.02	0.08	0.02	0.10	0.27	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	0.15	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	24 Mar 2021	0382_SW104_210324	Normal	NSW_0382_PFASOMP_20			<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
SW104	07 Sep 2021	0382_SW104_210907	Normal	NSW_0382_PFASOMP_20			<0.01	0.07	0.03	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	21 Mar 2022	0382_SW104_220321	Normal	NSW_0382_PFASOMP_20			<0.01	0.03	0.02	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
SW104	05 Sep 2022	0382_SW104_220905	Normal	NSW_0382_PFASOMP_20			<0.01	0.08	0.04	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
SW104	14 Mar 2023	0382_SW104_230314	Normal	NSW_0382_PFASOMP_23			<0.01	0.06	0.03	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	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW104	12 Sep 2023	0382_SW104_230912	Normal	NSW_0382_PFASOMP_23			<0.01	0.07	0.04	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
SW105	15 Jun 2018	0382_SW105_180615	Normal	NSW_0382_PFAS			<0.05	*0.51*	0.13	0.64	0.7	0.01	<0.01	<0.05	<0.01	<0.05	0.02	0.03	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW105	30 Sep 2020	0382_SW105_200930	Normal	NSW_0382_PFASOMP_20			0.02	0.13	0.03	0.16	0.45	<0.02	<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	0.23	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW105	24 Mar 2021	0382_SW105_210324	Normal	NSW_0382_PFASOMP_20			<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
SW105	07 Sep 2021	0382_SW105_210907	Normal	NSW_0382_PFASOMP_20			<0.01	0.12	0.04	0.16	0.20	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 T7 - Surface Water Historical 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	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Recreational Water							**10**			**2**																										
PFAS NEMP 2020 Freshwater 95%							*220*	*0.13*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																																
SW105	21 Mar 2022	0382_SW105_220321	Normal	NSW_0382_PFASOMP_20	<0.01	0.05	0.02	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
SW105	05 Sep 2022	0382_SW105_220905	Normal	NSW_0382_PFASOMP_20	<0.01	0.09	0.04	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
SW105	14 Mar 2023	0382_SW105_230314	Normal	NSW_0382_PFASOMP_23	<0.01	0.10	0.04	0.14	0.14	<0.02	<0.02	<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
SW105	12 Sep 2023	0382_SW105_230912	Normal	NSW_0382_PFASOMP_23	<0.01	0.09	0.04	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
SW111	30 Sep 2020	0382_SW111_200930	Normal	NSW_0382_PFASOMP_20	0.02	0.10	0.05	0.15	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	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	03 Dec 2020	0382_SW111_201203	Normal	NSW_0382_PFASOMP_20	0.02	0.07	0.05	0.12	0.17	<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
SW111	03 Dec 2020	0382_QC101_201203	Field_D	NSW_0382_PFASOMP_20	0.02	0.08	0.05	0.13	0.18	<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
SW111	03 Dec 2020	0382_QC201_201203	Interlab_D	NSW_0382_PFASOMP_20	0.018	0.084	0.05	-	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	0.022	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
SW111	25 Mar 2021	0382_SW111_210325	Normal	NSW_0382_PFASOMP_20	0.06	*1.42*	1.03	**2.45**	3.23	0.09	0.08	0.04	<0.02	<0.1	0.13	0.35	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
SW111	07 Jun 2021	0382_SW111_210607	Normal	NSW_0382_PFASOMP_20	0.07	*1.93*	0.90	**2.83**	3.41	0.06	0.08	0.04	<0.02	<0.1	0.05	0.20	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	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	07 Sep 2021	0382_SW111_210907	Normal	NSW_0382_PFASOMP_20	0.04	*1.01*	0.73	1.74	2.18	0.05	0.06	0.03	<0.02	<0.1	0.04	0.20	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW111	06 Dec 2021	0382_SW111_211206	Normal	NSW_0382_PFASOMP_20	0.01	0.06	0.03	0.09	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
SW111	23 Mar 2022	0382_SW111_220323	Normal	NSW_0382_PFASOMP_20	0.01	0.05	0.03	0.08	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
SW111	15 Jun 2022	0382_SW111_220615	Normal	NSW_0382_PFASOMP_20	0.02	0.08	0.06	0.14	0.19	<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
SW111	15 Jun 2022	0382_QC201_220615	Interlab_D	NSW_0382_PFASOMP_20	0.02	0.05	0.05	0.1	0.14	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<0.01	<0.01	<0.02	<0.02	<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
SW111	05 Sep 2022	0382_SW111_220905	Normal	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	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
SW111	05 Sep 2022	0382_QC202_2209	Interlab_D	NSW_0382_PFASOMP_20	0.01	0.04	0.03	0.07	0.1	<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	<0.01	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5		
SW111	05 Dec 2022	0382_SW111_221205	Normal	NSW_0382_PFASOMP_20	<0.01	*0.16*	0.08	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
SW111	05 Dec 2022	0382_QC201_221205	Interlab_D	NSW_0382_PFASOMP_20	<0.01	0.12	0.07	0.19	0.22	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	0.02	<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		
SW111	13 Mar 2023	0382_SW111_230313	Normal	NSW_0382_PFASOMP_23	0.01	0.09	0.05	0.14	0.18	<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

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
Water Quality Meter
YSI Professional Plus

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	[redacted]
Instrument	YSI Pro Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	20B122030
Client Name	[redacted] (AECOM Australia Pty Ltd)
Project Number	60612562_6.1
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.	18.8	19.0	18.8	°C
pH	pH 4.00	386466	4.01	4.04	4.01	pH
pH	pH 7.00	387329	7.00	7.04	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2613	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	245.6	246.2	245.6	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	1.3	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	94.7	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	06/09/2023
Calibration Due	06/03/2024

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

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	+61 405 241 484
Contact Name	[redacted]
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	01-8895
Client Name	[redacted](AECOM Australia Pty Ltd)
Project Number	60612562_6.1

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	06/09/2023
Calibration Due	06/03/2024

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:
admin@wamscientific.com.au
accounts@wamscientific.com.au
sales@wamscientific.com.au
service@wamscientific.com.au

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP Holsworthy	**Project Number:**	60612562
Project Location:	Holsworthy	**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:	20B122030

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/9/23 0800				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:			2180		
Calibration Reading:			2180		
Calibration Temperature:			14		

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	11/9/23 0800				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2180	0	
Bump Test Reading:	4.02	7.01	1675	0.02	
Bump Test Temperature:	14.1	14.5	14	14	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

11/9/2023

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP Holsworthy	**Project Number:**	60612562
Project Location:	Holsworthy	**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:	20B127036

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	12/9/23 0745				
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:	12/9/23 0745				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2180	0	
Bump Test Reading:	4.01	6.69	2175		
Bump Test Temperature:	14.4	14.1	14		

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted] — Fieldwork Staff Signature

12/9/23 — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP Holsworthy	**Project Number:**	60612562
Project Location:	Holsworthy	**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:	20B122030

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/9/23 0840				
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:	13/9/23 0840				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2180	0	
Bump Test Reading:	4.02	7.03	2082	0.02	
Bump Test Temperature:	15.3	15	15.1	14.9	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

☑ Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[redacted]

Fieldwork Staff Signature

13/9/23

Date

Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	Georgia Flitcroft	Date:	20/09/2023
Client:	Department of Defence	Data verified by:	Sedat Tasdemir	Date:	17/10/2023
Site:	Holsworthy Barracks	Project Manager:	[redacted]		
Matrix type:	Groundwater and Surface Water				
Primary samples:	22 Groundwater samples and 13 Surface Water samples				
Laboratory:	Primary: ALS Secondary: Envirolab				
Lab reference:	ES2331172 (ALS), 332934 (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 by suitably qualified and experienced AECOM Environmental Engineers between 11/09/2023 and 13/09/2023.
Sampling Methodology	All water samples were collected in accordance with the methodology outlined in the SAQP (AECOM, 2023). While not a deviation from the SAQP, it is noted that one groundwater sample (from MW124) was collected with the use of a bailer, as there was no HydraSleeve™ present in the groundwater monitoring well. After each sample was collected, reusable equipment was decontaminated using Liquinox and potable water, and the consumables (nitrile gloves and HydraSleeve™ material) 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 (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 a frequency greater than one in ten primary samples (>10%), meeting and exceeding the DQI. In total, for the 35 primary water samples, four field duplicate samples and four field triplicate samples were collected.
Handling and preservation	All samples were received by the primary and secondary laboratories in appropriate containers, with ice present and with temperature between 3.1 and 5.5 ˚C, within the recommended temperature range (<6°C).
Calibration of equipment	Measurements of water quality 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 interface probes, which were 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, 2023).
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 a 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 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. This is presented in the Quality Control Reports for the primary laboratory.
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.
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.
Intra/Inter-laboratory duplicate 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 the RPDs for the following inter-laboratory duplicates (Field Triplicates):

	0382_MW117/QC202 - Perfluorooctane sulfonic acid (PFOS): 67% 0382_MW330/QC203 - Perfluorobutane sulfonic acid (PFBS): 42% - Perfluoroheptane sulfonic acid (PFHpS): 32% The elevated RPDs for groundwater duplicate pairs were generally marginally above acceptable limits and were within the same order of magnitude, and therefore considered acceptable. Where required for quantitative purposes, the highest concentrations from the primary and duplicate pairs were 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 – Rinsate Blank Results

Table D1 - Water Duplicate RPDs

		Lab Report Number	ES2331172	ES2331172		ES2331172	332934		ES2331172	ES2331172	
		Field ID	0382_MW130_230911	0382_QC100_230911		0382_MW130_230911	0382_QC200_2309		0382_SW059_230911	0382_QC101_230911	
		Matrix Type	Water	Water		Water	Water		Water	Water	
		Date	11 Sep 2023	11 Sep 2023	RPD (%)	11 Sep 2023	11 Sep 2023	RPD (%)	11 Sep 2023	11 Sep 2023	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
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.01	<0.01	nc	0.01	<0.01	nc	0.05	0.03	50
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.02	<0.01	nc	0.02	<0.01	nc	0.03	0.03	0
Sum of PFHxS and PFOS	µg/L	0.01	0.03	<0.01	nc	0.03	<0.01	nc	0.08	0.06	29
Sum of PFAS	µg/L	0.01	0.03	<0.01	nc	0.03	<0.01	nc	0.11	0.08	32
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
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<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
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<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	0.03	0.02	40
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	nc	<0.02	<0.01	nc	<0.02	<0.02	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<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
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.05	nc	<0.02	<0.02	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.1	nc	<0.02	<0.02	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	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	<0.01	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	<0.01	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	<0.02	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	<0.02	nc	<0.05	<0.05	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
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<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
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<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
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
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	nc	<0.05	<0.5	nc	<0.05	<0.05	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 D1 - Water Duplicate RPDs

	Lab Report Number		ES2331172	332934		ES2331172	ES2331172		ES2331172	332934	
	Field ID		0382_SW059_230911	0382_QC201_2309		0382_MW117_230912	0382_QC102_230912		0382_MW117_230912	0382_QC202_2309	
	Matrix Type		Water	Water		Water	Water		Water	Water	
	Date		11 Sep 2023	11 Sep 2023	RPD (%)	12 Sep 2023	12 Sep 2023	RPD (%)	12 Sep 2023	12 Sep 2023	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
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.05	0.03	50	0.18	0.14	25	0.18	0.09	**67**
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.03	0.03	0	0.02	0.01	67	0.02	<0.01	nc
Sum of PFHxS and PFOS	µg/L	0.01	0.08	0.06	29	0.20	0.15	29	0.20	0.09	**76**
Sum of PFAS	µg/L	0.01	0.11	0.09	20	0.20	0.15	29	0.20	0.09	**76**
PFAS - Perfluoroalkyl Sulfonic Acids											
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<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	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<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
PFAS - Perfluoroalkyl Carboxylic Acids											
Perfluorobutanoic acid (PFBA)	µg/L	0.02	<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
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.03	0.02	40	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.01	nc	<0.02	<0.02	nc	<0.02	<0.01	nc
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.01	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
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	nc	<0.02	<0.02	nc	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.05	nc	<0.02	<0.02	nc	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.1	nc	<0.02	<0.02	nc	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.5	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	<0.01	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	<0.01	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	<0.02	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	<0.02	nc	<0.05	<0.05	nc	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides											
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.1	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
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
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<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	<0.1	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
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<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 D1 - Water Duplicate RPDs

		Lab Report Number	ES2331172	ES2331172		ES2331172	332934	
		Field ID	0382_MW330_230912	0382_QC103_230912		0382_MW330_230912	0382_QC203_2309	
		Matrix Type	Water	Water		Water	Water	
		Date	12 Sep 2023	12 Sep 2023	RPD (%)	12 Sep 2023	12 Sep 2023	RPD (%)
	Unit	LOR						
PFAS								
Perfluorooctanoic acid (PFOA)	µg/L	0.01	4.79	4.55	5	4.79	5.1	6
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	17.6	15.3	14	17.6	14	23
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	56.5	54.4	4	56.5	64	12
Sum of PFHxS and PFOS	µg/L	0.01	74.1	69.7	6	74.1	77	4
Sum of PFAS	µg/L	0.01	113	108	5	113	120	6
PFAS - Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	1.70	1.86	9	1.70	2.6	**42**
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	6.10	7.06	15	6.10	7.2	17
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	3.11	2.85	9	3.11	4.3	**32**
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.02	nc
PFAS - Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	µg/L	0.02	1.2	1.2	0	1.2	1.6	29
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	2.78	2.59	7	2.78	3.1	11
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	17.4	16.5	5	17.4	18	3
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	1.42	1.66	16	1.42	1.9	29
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.04	nc	<0.02	<0.01	nc
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.02	nc
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.02	nc
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.05	nc
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.1	nc
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.10	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
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.01	<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
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.02	<0.05	<0.05	nc	<0.05	<0.02	nc
PFAS - Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.1	nc
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.10	nc	<0.05	<0.05	nc
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.02	nc
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.10	nc	<0.05	<0.05	nc
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.10	nc	<0.05	<0.1	nc
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.04	nc	<0.02	<0.02	nc
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.10	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 - Rinsate Blank Results

		Lab Report Number	ES2331172	ES2331172	ES2331172
		Field ID	0382_QC300_230911	0382_QC300_230912	0382_QC300_230913
		Matrix Type	Water	Water	Water
		Date	11 Sep 2023	12 Sep 2023	13 Sep 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	: **ES2331172**	Page	: 1 of 21
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Sep-2023 11:30
Order number	: 60612562_6.1	Date Analysis Commenced	: 14-Sep-2023
C-O-C number	: 56901	Issue Date	: 20-Sep-2023 09:01
Sampler	: [redacted]		
Site	: 0382		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 43		
No. of samples analysed	: 42		

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: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW349_230913	0382_MW330_230912	0382_MW323_230913	0382_MW301_230912	0382_MW136_230911
				Sampling date / time	13-Sep-2023 10:03	12-Sep-2023 14:48	13-Sep-2023 09:11	12-Sep-2023 14:04	11-Sep-2023 08:51
					ES2331172-014	ES2331172-015	ES2331172-016	ES2331172-017	ES2331172-018
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.05**	**1.70**	<0.02	<0.02	**0.04**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.05**	**6.10**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.30**	**56.5**	<0.01	**0.04**	**0.05**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**3.11**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.07**	**17.6**	<0.01	**0.05**	**0.06**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**1.2**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**2.78**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.03**	**17.4**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**1.42**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	**4.79**	<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	0382_MW349_230913	0382_MW330_230912	0382_MW323_230913	0382_MW301_230912	0382_MW136_230911
				Sampling date / time	13-Sep-2023 10:03	12-Sep-2023 14:48	13-Sep-2023 09:11	12-Sep-2023 14:04	11-Sep-2023 08:51
Compound	CAS Number	LOR	Unit		ES2331172-014	ES2331172-015	ES2331172-016	ES2331172-017	ES2331172-018
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
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		**0.51**	**113**	<0.01	**0.09**	**0.15**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.37**	**74.1**	<0.01	**0.09**	**0.11**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.46**	**103**	<0.01	**0.09**	**0.15**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**104**	**102**	**99.7**	**98.5**
13C8-PFOA	----	0.02	%		**104**	**99.8**	**98.9**	**100**	**103**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW133_230911	0382_MW131_230911	0382_MW130_230911	0382_MW129_230911	0382_MW124_230913
				Sampling date / time	11-Sep-2023 08:34	11-Sep-2023 08:41	11-Sep-2023 08:19	11-Sep-2023 10:20	13-Sep-2023 09:44
Compound	CAS Number	LOR	Unit		ES2331172-019	ES2331172-020	ES2331172-021	ES2331172-022	ES2331172-023
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.55**	<0.02	<0.02	<0.02	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**2.70**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**29.2**	**0.03**	**0.02**	**0.02**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**8.38**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**587**	**0.13**	**0.01**	**0.06**	<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		**1.3**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.88**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**9.09**	<0.02	<0.02	<0.02	**0.03**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.56**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**3.51**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.06**	<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	0382_MW133_230911	0382_MW131_230911	0382_MW130_230911	0382_MW129_230911	0382_MW124_230913
				Sampling date / time	11-Sep-2023 08:34	11-Sep-2023 08:41	11-Sep-2023 08:19	11-Sep-2023 10:20	13-Sep-2023 09:44
Compound	CAS Number	LOR	Unit		ES2331172-019	ES2331172-020	ES2331172-021	ES2331172-022	ES2331172-023
					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		**0.11**	<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		**645**	**0.16**	**0.03**	**0.08**	**0.08**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**616**	**0.16**	**0.03**	**0.08**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**634**	**0.16**	**0.03**	**0.08**	**0.08**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**75.1**	**109**	**104**	**98.9**	**102**
13C8-PFOA	----	0.02	%		**101**	**106**	**106**	**107**	**108**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW123_230913	0382_MW122_230912	0382_MW121_230912	0382_MW120_230912	0382_MW119P_230911
				Sampling date / time	13-Sep-2023 09:27	12-Sep-2023 10:15	12-Sep-2023 09:39	12-Sep-2023 09:25	11-Sep-2023 09:44
Compound	CAS Number	LOR	Unit		ES2331172-024	ES2331172-025	ES2331172-026	ES2331172-027	ES2331172-028
					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	**5.00**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**7.85**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**55.6**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**6.99**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**149**
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	**0.6**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.31**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**7.72**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**1.45**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**4.72**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.06**
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	0382_MW123_230913	0382_MW122_230912	0382_MW121_230912	0382_MW120_230912	0382_MW119P_230911
				Sampling date / time	13-Sep-2023 09:27	12-Sep-2023 10:15	12-Sep-2023 09:39	12-Sep-2023 09:25	11-Sep-2023 09:44
Compound	CAS Number	LOR	Unit		ES2331172-024	ES2331172-025	ES2331172-026	ES2331172-027	ES2331172-028
					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	**0.15**
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	**240**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**205**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**226**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**96.0**	**111**	**94.6**	**82.0**
13C8-PFOA	----	0.02	%		**106**	**107**	**105**	**108**	**105**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)

Compound	CAS Number	LOR	Unit	Sample ID	0382_MW119_230911	0382_MW117_230912	0382_MW113_230911	0382_MW112P_230911	0382_MW112_230911
				Sampling date / time	11-Sep-2023 09:45	12-Sep-2023 08:50	11-Sep-2023 09:12	11-Sep-2023 09:25	11-Sep-2023 09:24
					ES2331172-029	ES2331172-030	ES2331172-031	ES2331172-032	ES2331172-033
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**1.16**	<0.02	**44.7**	**0.18**	**2.42**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.44**	<0.02	**56.4**	**0.24**	**4.31**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**8.16**	**0.02**	**316**	**2.84**	**31.3**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.62**	<0.02	**28.8**	**0.30**	**2.58**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**28.0**	**0.18**	**329**	**22.5**	**23.8**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	**0.10**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.4**	<0.1	**6.4**	**0.1**	**0.4**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.58**	<0.02	**11.9**	**0.20**	**0.56**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**2.24**	<0.02	**60.5**	**0.82**	**3.01**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.32**	<0.02	**10.3**	**0.09**	**0.60**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.59**	<0.01	**22.3**	**0.23**	**1.58**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.17**	<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	0382_MW119_230911	0382_MW117_230912	0382_MW113_230911	0382_MW112P_230911	0382_MW112_230911
				Sampling date / time	11-Sep-2023 09:45	12-Sep-2023 08:50	11-Sep-2023 09:12	11-Sep-2023 09:25	11-Sep-2023 09:24
Compound	CAS Number	LOR	Unit		ES2331172-029	ES2331172-030	ES2331172-031	ES2331172-032	ES2331172-033
					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	**3.82**	<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		**43.5**	**0.20**	**890**	**27.5**	**70.6**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**36.2**	**0.20**	**645**	**25.3**	**55.1**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**41.4**	**0.20**	**805**	**27.0**	**63.7**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.1**	**102**	**78.9**	**103**	**104**
13C8-PFOA	----	0.02	%		**108**	**111**	**102**	**106**	**106**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW005_230912	0382_MW002_230912	0382_QC103_230912	0382_QC102_230912	0382_QC100_230911
				Sampling date / time	12-Sep-2023 14:06	12-Sep-2023 14:07	12-Sep-2023 14:49	12-Sep-2023 08:51	11-Sep-2023 08:20
Compound	CAS Number	LOR	Unit		ES2331172-034	ES2331172-035	ES2331172-040	ES2331172-041	ES2331172-043
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.15**	<0.02	**1.86**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**7.06**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.05**	**0.02**	**54.4**	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**2.85**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.06**	**0.08**	**15.3**	**0.14**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**1.2**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.02**	**2.59**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.02**	**16.5**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**1.66**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.03**	**0.12**	**4.55**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0382_MW005_230912	0382_MW002_230912	0382_QC103_230912	0382_QC102_230912	0382_QC100_230911
				Sampling date / time	12-Sep-2023 14:06	12-Sep-2023 14:07	12-Sep-2023 14:49	12-Sep-2023 08:51	11-Sep-2023 08:20
Compound	CAS Number	LOR	Unit		ES2331172-034	ES2331172-035	ES2331172-040	ES2331172-041	ES2331172-043
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.29**	**0.26**	**108**	**0.15**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.11**	**0.10**	**69.7**	**0.15**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.29**	**0.26**	**98.1**	**0.15**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.5**	**97.9**	**103**	**95.5**	**97.1**
13C8-PFOA	----	0.02	%		**102**	**108**	**99.9**	**97.2**	**101**

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0026_QC302_230913	0026_QC301_230912	0026_QC300_230911	----	----
				Sampling date / time	13-Sep-2023 09:14	12-Sep-2023 14:12	12-Sep-2023 14:11	----	----
Compound	CAS Number	LOR	Unit		ES2331172-036	ES2331172-037	ES2331172-038	--------	--------
					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	0026_QC302_230913	0026_QC301_230912	0026_QC300_230911	----	----
				Sampling date / time	13-Sep-2023 09:14	12-Sep-2023 14:12	12-Sep-2023 14:11	----	----
Compound	CAS Number	LOR	Unit		ES2331172-036	ES2331172-037	ES2331172-038	--------	--------
					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	%		**100**	**106**	**107**	----	----
13C8-PFOA	----	0.02	%		**106**	**106**	**104**	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW105_230912	0382_SW104_230912	0382_SW103_230912	0382_SW063_230912	0382_SW062_230911
				Sampling date / time	12-Sep-2023 15:09	12-Sep-2023 15:09	12-Sep-2023 15:08	12-Sep-2023 09:24	11-Sep-2023 13:35
Compound	CAS Number	LOR	Unit		ES2331172-001	ES2331172-002	ES2331172-003	ES2331172-004	ES2331172-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.04**	<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		**0.04**	**0.04**	**0.10**	<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		**0.09**	**0.07**	**0.06**	**0.01**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.03**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
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	0382_SW105_230912	0382_SW104_230912	0382_SW103_230912	0382_SW063_230912	0382_SW062_230911
				Sampling date / time	12-Sep-2023 15:09	12-Sep-2023 15:09	12-Sep-2023 15:08	12-Sep-2023 09:24	11-Sep-2023 13:35
Compound	CAS Number	LOR	Unit		ES2331172-001	ES2331172-002	ES2331172-003	ES2331172-004	ES2331172-005
					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		**0.13**	**0.11**	**0.23**	**0.01**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.13**	**0.11**	**0.16**	**0.01**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.13**	**0.11**	**0.23**	**0.01**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.5**	**102**	**103**	**104**	**103**
13C8-PFOA	----	0.02	%		**98.9**	**101**	**101**	**100**	**102**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW059_230911	0382_SW025_230911	0382_SW017_230912	0382_SW015_230911	0382_SW012_230912
				Sampling date / time	11-Sep-2023 10:24	11-Sep-2023 13:12	12-Sep-2023 14:06	11-Sep-2023 12:13	12-Sep-2023 14:04
Compound	CAS Number	LOR	Unit		ES2331172-006	ES2331172-007	ES2331172-008	ES2331172-009	ES2331172-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.03**	<0.01	**0.03**	**0.03**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	<0.01	**0.04**	**0.05**	**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		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW059_230911	0382_SW025_230911	0382_SW017_230912	0382_SW015_230911	0382_SW012_230912
				Sampling date / time	11-Sep-2023 10:24	11-Sep-2023 13:12	12-Sep-2023 14:06	11-Sep-2023 12:13	12-Sep-2023 14:04
Compound	CAS Number	LOR	Unit		ES2331172-006	ES2331172-007	ES2331172-008	ES2331172-009	ES2331172-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.11**	<0.01	**0.07**	**0.08**	**0.05**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.08**	<0.01	**0.07**	**0.08**	**0.05**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.11**	<0.01	**0.07**	**0.08**	**0.05**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**106**	**98.3**	**105**	**106**
13C8-PFOA	----	0.02	%		**105**	**104**	**102**	**103**	**99.3**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW011_230912	0382_SW009_230911	0382_SW001_230911	0382_QC101_230911	----
				Sampling date / time	12-Sep-2023 14:05	11-Sep-2023 12:38	11-Sep-2023 09:32	11-Sep-2023 10:23	----
Compound	CAS Number	LOR	Unit		ES2331172-011	ES2331172-012	ES2331172-013	ES2331172-042	--------
					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		**0.03**	**0.13**	**0.02**	**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		**0.03**	**0.16**	**0.11**	**0.03**	----
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	**0.04**	<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	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0382_SW011_230912	0382_SW009_230911	0382_SW001_230911	0382_QC101_230911	----
				Sampling date / time	12-Sep-2023 14:05	11-Sep-2023 12:38	11-Sep-2023 09:32	11-Sep-2023 10:23	----
Compound	CAS Number	LOR	Unit		ES2331172-011	ES2331172-012	ES2331172-013	ES2331172-042	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.06**	**0.34**	**0.13**	**0.08**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.06**	**0.29**	**0.13**	**0.06**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.06**	**0.34**	**0.13**	**0.08**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**101**	**103**	**105**	----
13C8-PFOA	----	0.02	%		**104**	**99.4**	**103**	**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: RINSATE		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	: **ES2331172**	Page	: 1 of 14
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Sep-2023
Order number	: 60612562_6.1	Date Analysis Commenced	: 14-Sep-2023
C-O-C number	: 56901	Issue Date	: 20-Sep-2023
Sampler	: [redacted]		
Site	: 0382		
Quote number	: SY/139/19 v4 60612562_6.1		
No. of samples received	: 43		
No. of samples analysed	: 42		

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: 5296381)									
ES2331172-001	0382_SW105_230912	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.09	0.11	19.2	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2331172-011	0382_SW011_230912	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5296817)									
ES2331172-020	0382_MW131_230911	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.13	0.12	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2331172-030	0382_MW117_230912	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	0.18	0.15	17.3	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

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: 5296817) - continued									
ES2331172-030	0382_MW117_230912	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: 5296819)									
ES2331172-040	0382_QC103_230912	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	54.4	54.7	0.6	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	15.3	15.0	2.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.86	1.82	2.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	7.06	6.61	6.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.85	2.66	6.9	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5296381)									
ES2331172-001	0382_SW105_230912	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
ES2331172-011	0382_SW011_230912	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: 5296817)									
ES2331172-020	0382_MW131_230911	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: 5296817) - continued									
ES2331172-020	0382_MW131_230911	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
ES2331172-030	0382_MW117_230912	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: 5296819)									
ES2331172-040	0382_QC103_230912	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	4.55	4.50	1.1	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.59	2.68	3.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	16.5	16.9	2.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.66	1.51	9.3	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.2	1.2	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5296381)									
ES2331172-001	0382_SW105_230912	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 (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5296381) - continued									
ES2331172-011	0382_SW011_230912	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: 5296817)									
ES2331172-020	0382_MW131_230911	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
ES2331172-030	0382_MW117_230912	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: 5296819)									

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: 5296819) - continued									
ES2331172-040	0382_QC103_230912	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5296381)									
ES2331172-001	0382_SW105_230912	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
ES2331172-011	0382_SW011_230912	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: 5296817)									
ES2331172-020	0382_MW131_230911	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
ES2331172-030	0382_MW117_230912	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: 5296817) - continued									
ES2331172-030	0382_MW117_230912	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: 5296819)									
ES2331172-040	0382_QC103_230912	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: 5296381)									
ES2331172-001	0382_SW105_230912	EP231X: Sum of PFAS	----	0.01	µg/L	0.13	0.15	14.3	0% - 50%
ES2331172-011	0382_SW011_230912	EP231X: Sum of PFAS	----	0.01	µg/L	0.06	0.06	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5296817)									
ES2331172-020	0382_MW131_230911	EP231X: Sum of PFAS	----	0.01	µg/L	0.16	0.15	6.5	0% - 50%
ES2331172-030	0382_MW117_230912	EP231X: Sum of PFAS	----	0.01	µg/L	0.20	0.17	16.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 5296819)									
ES2331172-040	0382_QC103_230912	EP231X: Sum of PFAS	----	0.01	µg/L	108	108	0.4	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5296381)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	82.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	85.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	86.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	96.4	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	80.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5296817)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	85.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	75.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	89.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	97.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	92.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5296819)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	83.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	95.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	86.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	98.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	95.6	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	79.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296381)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	91.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296381) - continued								
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296817)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	87.3	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	86.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	77.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296819)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.4	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	93.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.8	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.7	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.3	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296381)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	91.1	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	90.8	57.6	145

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: 5296381) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	98.5	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	97.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296817)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	96.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.0	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	88.6	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	81.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296819)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.3	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.8	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.8	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	88.3	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296381)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	88.2	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	94.4	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	122	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	97.0	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296817)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	83.3	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	96.6	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	121	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296817) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	78.7	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296819)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	87.0	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	103	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	95.2	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	79.1	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: 5296381)							
ES2331172-002	0382_SW104_230912	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	120	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	87.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	89.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	104	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	100	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	94.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5296817)							
ES2331172-021	0382_MW130_230911	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	88.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	84.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	79.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	89.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	88.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	87.1	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5296819)							
ES2331172-041	0382_QC102_230912	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	93.2	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	93.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	107	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	97.7	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	97.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296381)							
ES2331172-002	0382_SW104_230912	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	99.2	73.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296381) - continued							
ES2331172-002	0382_SW104_230912	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	101	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	86.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	102	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	95.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	89.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	106	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	91.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	91.0	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296817)							
ES2331172-021	0382_MW130_230911	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	93.6	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	88.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	91.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	98.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	91.9	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	85.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.3	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	110	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	100	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	78.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5296819)							
ES2331172-041	0382_QC102_230912	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	95.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	100	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	104	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	104	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	105	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	109	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	121	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	108	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	108	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296381)							
ES2331172-002	0382_SW104_230912	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	93.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	96.2	68.0	141

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296381) - continued							
ES2331172-002	0382_SW104_230912	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	103	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.1	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	89.0	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	94.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296817)							
ES2331172-021	0382_MW130_230911	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	89.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	77.1	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	101	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.8	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	87.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	83.1	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5296819)							
ES2331172-041	0382_QC102_230912	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	108	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	95.8	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	94.0	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	101	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	109	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	96.5	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	107	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296381)							
ES2331172-002	0382_SW104_230912	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	84.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	108	67.0	138

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296381) - continued							
ES2331172-002	0382_SW104_230912	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	76.2	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296817)							
ES2331172-021	0382_MW130_230911	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	93.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	86.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	103	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	78.3	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5296819)							
ES2331172-041	0382_QC102_230912	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	103	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	102	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	90.6	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	79.7	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2331172**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61 2 8784 8555
Project	: NSW_0382_PFASOMP_23	Date Samples Received	: 13-Sep-2023
Site	: 0382	Issue Date	: 20-Sep-2023
Sampler	: [redacted]	No. of samples received	: 43
Order number	: 60612562_6.1	No. of samples analysed	: 42

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)								
0382_MW131_230911,	0382_MW130_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**15-Sep-2023**	09-Mar-2024	✓
0382_MW129_230911,	0382_MW119P_230911,							
0382_MW119_230911,	0382_MW113_230911,							
0382_MW112P_230911,	0382_MW112_230911,							
0382_QC101_230911,	0382_QC100_230911							
HDPE (no PTFE) (EP231X)								
0382_SW062_230911,	0382_SW059_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**18-Sep-2023**	09-Mar-2024	✓
0382_SW025_230911,	0382_SW015_230911,							
0382_SW009_230911,	0382_SW001_230911,							
0382_MW136_230911,	0382_MW133_230911							
HDPE (no PTFE) (EP231X)								
0382_MW122_230912,	0382_MW121_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**15-Sep-2023**	10-Mar-2024	✓
0382_MW120_230912,	0382_MW117_230912,							
0382_MW005_230912,	0382_MW002_230912,							
0026_QC301_230912,	0026_QC300_230911,							
0382_QC103_230912,	0382_QC102_230912							
HDPE (no PTFE) (EP231X)								
0382_SW105_230912,	0382_SW104_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**18-Sep-2023**	10-Mar-2024	✓
0382_SW103_230912,	0382_SW063_230912,							
0382_SW017_230912,	0382_SW012_230912,							
0382_SW011_230912,	0382_MW330_230912,							
0382_MW301_230912								
HDPE (no PTFE) (EP231X)								
0382_MW124_230913,	0382_MW123_230913,	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**15-Sep-2023**	11-Mar-2024	✓
0026_QC302_230913								
HDPE (no PTFE) (EP231X)								
0382_MW349_230913,	0382_MW323_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**18-Sep-2023**	11-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
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0382_MW131_230911,	0382_MW130_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**15-Sep-2023**	09-Mar-2024	✓
0382_MW129_230911,	0382_MW119P_230911,							
0382_MW119_230911,	0382_MW113_230911,							
0382_MW112P_230911,	0382_MW112_230911,							
0382_QC101_230911,	0382_QC100_230911							
HDPE (no PTFE) (EP231X)								
0382_SW062_230911,	0382_SW059_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**18-Sep-2023**	09-Mar-2024	✓
0382_SW025_230911,	0382_SW015_230911,							
0382_SW009_230911,	0382_SW001_230911,							
0382_MW136_230911,	0382_MW133_230911							
HDPE (no PTFE) (EP231X)								
0382_MW122_230912,	0382_MW121_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**15-Sep-2023**	10-Mar-2024	✓
0382_MW120_230912,	0382_MW117_230912,							
0382_MW005_230912,	0382_MW002_230912,							
0026_QC301_230912,	0026_QC300_230911,							
0382_QC103_230912,	0382_QC102_230912							
HDPE (no PTFE) (EP231X)								
0382_SW105_230912,	0382_SW104_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**18-Sep-2023**	10-Mar-2024	✓
0382_SW103_230912,	0382_SW063_230912,							
0382_SW017_230912,	0382_SW012_230912,							
0382_SW011_230912,	0382_MW330_230912,							
0382_MW301_230912								
HDPE (no PTFE) (EP231X)								
0382_MW124_230913,	0382_MW123_230913,	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**15-Sep-2023**	11-Mar-2024	✓
0026_QC302_230913								
HDPE (no PTFE) (EP231X)								
0382_MW349_230913,	0382_MW323_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**18-Sep-2023**	11-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
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0382_MW131_230911, 0382_MW130_230911, 0382_MW129_230911, 0382_MW119P_230911, 0382_MW119_230911, 0382_MW113_230911, 0382_MW112P_230911, 0382_MW112_230911, 0382_QC101_230911, 0382_QC100_230911	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**15-Sep-2023**	09-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_SW062_230911, 0382_SW059_230911, 0382_SW025_230911, 0382_SW015_230911, 0382_SW009_230911, 0382_SW001_230911, 0382_MW136_230911, 0382_MW133_230911	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**18-Sep-2023**	09-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW122_230912, 0382_MW121_230912, 0382_MW120_230912, 0382_MW117_230912, 0382_MW005_230912, 0382_MW002_230912, 0026_QC301_230912, 0026_QC300_230911, 0382_QC103_230912, 0382_QC102_230912	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**15-Sep-2023**	10-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_SW105_230912, 0382_SW104_230912, 0382_SW103_230912, 0382_SW063_230912, 0382_SW017_230912, 0382_SW012_230912, 0382_SW011_230912, 0382_MW330_230912, 0382_MW301_230912	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**18-Sep-2023**	10-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW124_230913, 0382_MW123_230913, 0026_QC302_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**15-Sep-2023**	11-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW349_230913, 0382_MW323_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**18-Sep-2023**	11-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
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0382_MW131_230911, 0382_MW130_230911, 0382_MW129_230911, 0382_MW119P_230911, 0382_MW119_230911, 0382_MW113_230911, 0382_MW112P_230911, 0382_MW112_230911, 0382_QC101_230911, 0382_QC100_230911	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**15-Sep-2023**	09-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_SW062_230911, 0382_SW059_230911, 0382_SW025_230911, 0382_SW015_230911, 0382_SW009_230911, 0382_SW001_230911, 0382_MW136_230911, 0382_MW133_230911	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**18-Sep-2023**	09-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW122_230912, 0382_MW121_230912, 0382_MW120_230912, 0382_MW117_230912, 0382_MW005_230912, 0382_MW002_230912, 0026_QC301_230912, 0026_QC300_230911, 0382_QC103_230912, 0382_QC102_230912	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**15-Sep-2023**	10-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_SW105_230912, 0382_SW104_230912, 0382_SW103_230912, 0382_SW063_230912, 0382_SW017_230912, 0382_SW012_230912, 0382_SW011_230912, 0382_MW330_230912, 0382_MW301_230912	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**18-Sep-2023**	10-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW124_230913, 0382_MW123_230913, 0026_QC302_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**15-Sep-2023**	11-Mar-2024	✓
HDPE (no PTFE) (EP231X) 0382_MW349_230913, 0382_MW323_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**18-Sep-2023**	11-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
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0382_MW131_230911,	0382_MW130_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**15-Sep-2023**	09-Mar-2024	✓
0382_MW129_230911,	0382_MW119P_230911,							
0382_MW119_230911,	0382_MW113_230911,							
0382_MW112P_230911,	0382_MW112_230911,							
0382_QC101_230911,	0382_QC100_230911							
HDPE (no PTFE) (EP231X)								
0382_SW062_230911,	0382_SW059_230911,	**11-Sep-2023**	**14-Sep-2023**	09-Mar-2024	✓	**18-Sep-2023**	09-Mar-2024	✓
0382_SW025_230911,	0382_SW015_230911,							
0382_SW009_230911,	0382_SW001_230911,							
0382_MW136_230911,	0382_MW133_230911							
HDPE (no PTFE) (EP231X)								
0382_MW122_230912,	0382_MW121_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**15-Sep-2023**	10-Mar-2024	✓
0382_MW120_230912,	0382_MW117_230912,							
0382_MW005_230912,	0382_MW002_230912,							
0026_QC301_230912,	0026_QC300_230911,							
0382_QC103_230912,	0382_QC102_230912							
HDPE (no PTFE) (EP231X)								
0382_SW105_230912,	0382_SW104_230912,	**12-Sep-2023**	**14-Sep-2023**	10-Mar-2024	✓	**18-Sep-2023**	10-Mar-2024	✓
0382_SW103_230912,	0382_SW063_230912,							
0382_SW017_230912,	0382_SW012_230912,							
0382_SW011_230912,	0382_MW330_230912,							
0382_MW301_230912								
HDPE (no PTFE) (EP231X)								
0382_MW124_230913,	0382_MW123_230913,	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**15-Sep-2023**	11-Mar-2024	✓
0026_QC302_230913								
HDPE (no PTFE) (EP231X)								
0382_MW349_230913,	0382_MW323_230913	**13-Sep-2023**	**14-Sep-2023**	11-Mar-2024	✓	**18-Sep-2023**	11-Mar-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	5	42	**11.90**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	42	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	42	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	42	**7.14**	**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	: **ES2331172**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0382_PFASOMP_23	Page	: 1 of 3
Order number	: 60612562_6.1	Quote number	: ES2021AECOMAU0028 (SY/139/19 v4 60612562_6.1)
C-O-C number	: 56901	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0382		
Sampler	: [redacted]		

Dates

Date Samples Received	: 13-Sep-2023 11:30	Issue Date	: 13-Sep-2023
Client Requested Due Date	: 19-Sep-2023	Scheduled Reporting Date	: **19-Sep-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 4.6'C, 3.1'C, 5.5'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 43 / 42

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	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2331172-001	12-Sep-2023 15:09	0382_SW105_230912		✓
ES2331172-002	12-Sep-2023 15:09	0382_SW104_230912		✓
ES2331172-003	12-Sep-2023 15:08	0382_SW103_230912		✓
ES2331172-004	12-Sep-2023 09:24	0382_SW063_230912		✓
ES2331172-005	11-Sep-2023 13:35	0382_SW062_230911		✓
ES2331172-006	11-Sep-2023 10:24	0382_SW059_230911		✓
ES2331172-007	11-Sep-2023 13:12	0382_SW025_230911		✓
ES2331172-008	12-Sep-2023 14:06	0382_SW017_230912		✓
ES2331172-009	11-Sep-2023 12:13	0382_SW015_230911		✓
ES2331172-010	12-Sep-2023 14:04	0382_SW012_230912		✓
ES2331172-011	12-Sep-2023 14:05	0382_SW011_230912		✓
ES2331172-012	11-Sep-2023 12:38	0382_SW009_230911		✓
ES2331172-013	11-Sep-2023 09:32	0382_SW001_230911		✓
ES2331172-014	13-Sep-2023 10:03	0382_MW349_230913		✓
ES2331172-015	12-Sep-2023 14:48	0382_MW330_230912		✓
ES2331172-016	13-Sep-2023 09:11	0382_MW323_230913		✓
ES2331172-017	12-Sep-2023 14:04	0382_MW301_230912		✓
ES2331172-018	11-Sep-2023 08:51	0382_MW136_230911		✓
ES2331172-019	11-Sep-2023 08:34	0382_MW133_230911		✓
ES2331172-020	11-Sep-2023 08:41	0382_MW131_230911		✓
ES2331172-021	11-Sep-2023 08:19	0382_MW130_230911		✓
ES2331172-022	11-Sep-2023 10:20	0382_MW129_230911		✓
ES2331172-023	13-Sep-2023 09:44	0382_MW124_230913		✓
ES2331172-024	13-Sep-2023 09:27	0382_MW123_230913		✓
ES2331172-025	12-Sep-2023 10:15	0382_MW122_230912		✓
ES2331172-026	12-Sep-2023 09:39	0382_MW121_230912		✓
ES2331172-027	12-Sep-2023 09:25	0382_MW120_230912		✓
ES2331172-028	11-Sep-2023 09:44	0382_MW119P_230911		✓
ES2331172-029	11-Sep-2023 09:45	0382_MW119_230911		✓
ES2331172-030	12-Sep-2023 08:50	0382_MW117_230912		✓
ES2331172-031	11-Sep-2023 09:12	0382_MW113_230911		✓
ES2331172-032	11-Sep-2023 09:25	0382_MW112P_230911		✓
ES2331172-033	11-Sep-2023 09:24	0382_MW112_230911		✓
ES2331172-034	12-Sep-2023 14:06	0382_MW005_230912		✓
ES2331172-035	12-Sep-2023 14:07	0382_MW002_230912		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2331172-036	13-Sep-2023 09:14	0026_QC302_230913		✓
ES2331172-037	12-Sep-2023 14:12	0026_QC301_230912		✓
ES2331172-038	12-Sep-2023 14:11	0026_QC300_230911		✓
ES2331172-039	13-Sep-2023 09:12	0382_QC104_230913	✓	
ES2331172-040	12-Sep-2023 14:49	0382_QC103_230912		✓
ES2331172-041	12-Sep-2023 08:51	0382_QC102_230912		✓
ES2331172-042	11-Sep-2023 10:23	0382_QC101_230911		✓
ES2331172-043	11-Sep-2023 08:20	0382_QC100_230911		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email — AP_CustomerService.ANZ[redacted]

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email — derp.labreports@esdat.com.au

[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]

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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	0382_SW105_230912		12/09/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	X		
002	0382_SW104_230912		12/09/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0382_SW103_230912		12/09/2023 03:08 PM	WATER	ALS: 4 Non ALS: 0	No	X		
004	0382_SW063_230912		12/09/2023 09:24 AM	WATER	ALS: 4 Non ALS: 0	No	X		
005	0382_SW062_230911		11/09/2023 01:35 PM	WATER	ALS: 4 Non ALS: 0	No	X		
006	0382_SW059_230911		11/09/2023 10:24 AM	WATER	ALS: 4 Non ALS: 0	No	X		
007	0382_SW025_230911		11/09/2023 01:12 PM	WATER	ALS: 4 Non ALS: 0	No	X		

Environmental Division Sydney
Work Order Reference
ES2331172

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: Jack 13/09/23 12pm	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
008	0382_SW017_230912		12/09/2023 02:06 PM	WATER	ALS: 4 Non ALS: 0	No	X		
009	0382_SW015_230911		11/09/2023 12:13 PM	WATER	ALS: 4 Non ALS: 0	No	X		
010	0382_SW012_230912		12/09/2023 02:04 PM	WATER	ALS: 4 Non ALS: 0	No	X		
011	0382_SW011_230912		12/09/2023 02:05 PM	WATER	ALS: 4 Non ALS: 0	No	X		
012	0382_SW009_230911		11/09/2023 12:38 PM	WATER	ALS: 4 Non ALS: 0	No	X		
013	0382_SW001_230911		11/09/2023 09:32 AM	WATER	ALS: 4 Non ALS: 0	No	X		
014	0382_MW349_230913		13/09/2023 10:03 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12 pm	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
015	0382_MW330_230912		12/09/2023 02:48 PM	WATER	ALS: 4 Non ALS: 0	No	X		
016	0382_MW323_230913		13/09/2023 09:11 AM	WATER	ALS: 4 Non ALS: 0	No	X		
017	0382_MW301_230912		12/09/2023 02:04 PM	WATER	ALS: 4 Non ALS: 0	No	X		
018	0382_MW136_230911		11/09/2023 08:51 AM	WATER	ALS: 4 Non ALS: 0	No	X		
019	0382_MW133_230911		11/09/2023 08:34 AM	WATER	ALS: 4 Non ALS: 0	No	X		
020	0382_MW131_230911		11/09/2023 08:41 AM	WATER	ALS: 4 Non ALS: 0	No	X		
021	0382_MW130_230911		11/09/2023 08:19 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
022	0382_MW129_230911		11/09/2023 10:20 AM	WATER	ALS: 4 Non ALS: 0	No	X		
023	0382_MW124_230913		13/09/2023 09:44 AM	WATER	ALS: 4 Non ALS: 0	No	X		
024	0382_MW123_230913		13/09/2023 09:27 AM	WATER	ALS: 4 Non ALS: 0	No	X		
025	0382_MW122_230912		12/09/2023 10:15 AM	WATER	ALS: 4 Non ALS: 0	No	X		
026	0382_MW121_230912		12/09/2023 09:39 AM	WATER	ALS: 4 Non ALS: 0	No	X		
027	0382_MW120_230912		12/09/2023 09:25 AM	WATER	ALS: 4 Non ALS: 0	No	X		
028	0382_MW119P_230911		11/09/2023 09:44 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU002 8

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
029	0382_MW119_230911		11/09/2023 09:45 AM	WATER	ALS: 4 Non ALS: 0	No	X		
030	0382_MW117_230912		12/09/2023 08:50 AM	WATER	ALS: 4 Non ALS: 0	No	X		
031	0382_MW113_230911		11/09/2023 09:12 AM	WATER	ALS: 4 Non ALS: 0	No	X		
032	0382_MW112P_230911		11/09/2023 09:25 AM	WATER	ALS: 4 Non ALS: 0	No	X		
033	0382_MW112_230911		11/09/2023 09:24 AM	WATER	ALS: 4 Non ALS: 0	No	X		
034	0382_MW005_230912		12/09/2023 02:06 PM	WATER	ALS: 4 Non ALS: 0	No	X		
035	0382_MW002_230912		12/09/2023 02:07 PM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: **56901** *ALS Laboratory:* ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
036	0026_QC302_230913		13/09/2023 09:14 AM	WATER	ALS: 4 Non ALS: 0	No	X		
037	0026_QC301_230912		12/09/2023 02:12 PM	WATER	ALS: 4 Non ALS: 0	No	X		
038	0026_QC300_230911		12/09/2023 02:11 PM	WATER	ALS: 4 Non ALS: 0	No	X		
039	0382_QC104_230913		13/09/2023 09:12 AM	WATER	ALS: 4 Non ALS: 0	Yes	-		
040	0382_QC103_230912		12/09/2023 02:49 PM	WATER	ALS: 4 Non ALS: 0	No	X		
041	0382_QC102_230912		12/09/2023 08:51 AM	WATER	ALS: 4 Non ALS: 0	No	X		
042	0382_QC101_230911		11/09/2023 10:23 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **56901** *ALS Laboratory:* ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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
043	0382_QC100_230911		11/09/2023 08:20 AM	WATER	ALS: 4 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0382_SW105_230912	HDPE (no PTFE)	20 mL	00351221008088	Grey	No	
001	0382_SW105_230912	HDPE (no PTFE)	20 mL	00351221008103	Grey	No	
001	0382_SW105_230912	HDPE (no PTFE)	20 mL	00351221007981	Grey	No	
001	0382_SW105_230912	HDPE (no PTFE)	20 mL	00351221007826	Grey	No	
002	0382_SW104_230912	HDPE (no PTFE)	20 mL	00351221007920	Grey	No	
002	0382_SW104_230912	HDPE (no PTFE)	20 mL	00351221007947	Grey	No	
002	0382_SW104_230912	HDPE (no PTFE)	20 mL	00351221007954	Grey	No	
002	0382_SW104_230912	HDPE (no PTFE)	20 mL	00351221007857	Grey	No	
003	0382_SW103_230912	HDPE (no PTFE)	20 mL	00351221008077	Grey	No	
003	0382_SW103_230912	HDPE (no PTFE)	20 mL	00351221007829	Grey	No	
003	0382_SW103_230912	HDPE (no PTFE)	20 mL	00351221008263	Grey	No	
003	0382_SW103_230912	HDPE (no PTFE)	20 mL	00351221008034	Grey	No	
004	0382_SW063_230912	HDPE (no PTFE)	20 mL	00351221007883	Grey	No	
004	0382_SW063_230912	HDPE (no PTFE)	20 mL	00351221008113	Grey	No	
004	0382_SW063_230912	HDPE (no PTFE)	20 mL	00351221007891	Grey	No	
004	0382_SW063_230912	HDPE (no PTFE)	20 mL	00351221007961	Grey	No	
005	0382_SW062_230911	HDPE (no PTFE)	20 mL	00351221008001	Grey	No	
005	0382_SW062_230911	HDPE (no PTFE)	20 mL	00351221007976	Grey	No	
005	0382_SW062_230911	HDPE (no PTFE)	20 mL	00351221007996	Grey	No	
005	0382_SW062_230911	HDPE (no PTFE)	20 mL	00351221008364	Grey	No	
006	0382_SW059_230911	HDPE (no PTFE)	20 mL	00351221008126	Grey	No	
006	0382_SW059_230911	HDPE (no PTFE)	20 mL	00351221008222	Grey	No	
006	0382_SW059_230911	HDPE (no PTFE)	20 mL	00351221007960	Grey	No	
006	0382_SW059_230911	HDPE (no PTFE)	20 mL	00351221008224	Grey	No	
007	0382_SW025_230911	HDPE (no PTFE)	20 mL	00351221007880	Grey	No	
007	0382_SW025_230911	HDPE (no PTFE)	20 mL	00351221008068	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

007	0382_SW025_230911	HDPE (no PTFE)	20 mL	00351221008327	Grey	No	
007	0382_SW025_230911	HDPE (no PTFE)	20 mL	00351221008225	Grey	No	
008	0382_SW017_230912	HDPE (no PTFE)	20 mL	00351221007888	Grey	No	
008	0382_SW017_230912	HDPE (no PTFE)	20 mL	00351221008279	Grey	No	
008	0382_SW017_230912	HDPE (no PTFE)	20 mL	00351221008098	Grey	No	
008	0382_SW017_230912	HDPE (no PTFE)	20 mL	00351221007886	Grey	No	
009	0382_SW015_230911	HDPE (no PTFE)	20 mL	00351221008102	Grey	No	
009	0382_SW015_230911	HDPE (no PTFE)	20 mL	00351221007872	Grey	No	
009	0382_SW015_230911	HDPE (no PTFE)	20 mL	00351221008340	Grey	No	
009	0382_SW015_230911	HDPE (no PTFE)	20 mL	00351221008236	Grey	No	
010	0382_SW012_230912	HDPE (no PTFE)	20 mL	00351221007991	Grey	No	
010	0382_SW012_230912	HDPE (no PTFE)	20 mL	00351221007849	Grey	No	
010	0382_SW012_230912	HDPE (no PTFE)	20 mL	00351221008201	Grey	No	
010	0382_SW012_230912	HDPE (no PTFE)	20 mL	00351221007816	Grey	No	
011	0382_SW011_230912	HDPE (no PTFE)	20 mL	00351221008238	Grey	No	
011	0382_SW011_230912	HDPE (no PTFE)	20 mL	00351221008130	Grey	No	
011	0382_SW011_230912	HDPE (no PTFE)	20 mL	00351221008105	Grey	No	
011	0382_SW011_230912	HDPE (no PTFE)	20 mL	00351221008059	Grey	No	
012	0382_SW009_230911	HDPE (no PTFE)	20 mL	00351221008172	Grey	No	
012	0382_SW009_230911	HDPE (no PTFE)	20 mL	00351221007858	Grey	No	
012	0382_SW009_230911	HDPE (no PTFE)	20 mL	00351221008124	Grey	No	
012	0382_SW009_230911	HDPE (no PTFE)	20 mL	00351221008091	Grey	No	
013	0382_SW001_230911	HDPE (no PTFE)	20 mL	00351221008033	Grey	No	
013	0382_SW001_230911	HDPE (no PTFE)	20 mL	00351221008193	Grey	No	
013	0382_SW001_230911	HDPE (no PTFE)	20 mL	00351221008084	Grey	No	
013	0382_SW001_230911	HDPE (no PTFE)	20 mL	00351221008369	Grey	No	
014	0382_MW349_230913	HDPE (no PTFE)	20 mL	00351221008314	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU002 8

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:

014	0382_MW349_230913	HDPE (no PTFE)	20 mL	00351221008352	Grey	No	
014	0382_MW349_230913	HDPE (no PTFE)	20 mL	00351221007983	Grey	No	
014	0382_MW349_230913	HDPE (no PTFE)	20 mL	00351221008087	Grey	No	
015	0382_MW330_230912	HDPE (no PTFE)	20 mL	00351221008161	Grey	No	
015	0382_MW330_230912	HDPE (no PTFE)	20 mL	00351221007823	Grey	No	
015	0382_MW330_230912	HDPE (no PTFE)	20 mL	00351221007815	Grey	No	
015	0382_MW330_230912	HDPE (no PTFE)	20 mL	00351221008302	Grey	No	
016	0382_MW323_230913	HDPE (no PTFE)	20 mL	00351221008116	Grey	No	
016	0382_MW323_230913	HDPE (no PTFE)	20 mL	00351221008258	Grey	No	
016	0382_MW323_230913	HDPE (no PTFE)	20 mL	00351221008190	Grey	No	
016	0382_MW323_230913	HDPE (no PTFE)	20 mL	00351221008371	Grey	No	
017	0382_MW301_230912	HDPE (no PTFE)	20 mL	00351221007847	Grey	No	
017	0382_MW301_230912	HDPE (no PTFE)	20 mL	00351221008205	Grey	No	
017	0382_MW301_230912	HDPE (no PTFE)	20 mL	00351221007812	Grey	No	
017	0382_MW301_230912	HDPE (no PTFE)	20 mL	00351221008167	Grey	No	
018	0382_MW136_230911	HDPE (no PTFE)	20 mL	00351221008384	Grey	No	
018	0382_MW136_230911	HDPE (no PTFE)	20 mL	00351221007992	Grey	No	
018	0382_MW136_230911	HDPE (no PTFE)	20 mL	00351221007897	Grey	No	
018	0382_MW136_230911	HDPE (no PTFE)	20 mL	00351221007808	Grey	No	
019	0382_MW133_230911	HDPE (no PTFE)	20 mL	00351221007811	Grey	No	
019	0382_MW133_230911	HDPE (no PTFE)	20 mL	00351221008220	Grey	No	
019	0382_MW133_230911	HDPE (no PTFE)	20 mL	00351221007861	Grey	No	
019	0382_MW133_230911	HDPE (no PTFE)	20 mL	00351221007844	Grey	No	
020	0382_MW131_230911	HDPE (no PTFE)	20 mL	00351221008395	Grey	No	
020	0382_MW131_230911	HDPE (no PTFE)	20 mL	00351221008378	Grey	No	
020	0382_MW131_230911	HDPE (no PTFE)	20 mL	00351221008398	Grey	No	
020	0382_MW131_230911	HDPE (no PTFE)	20 mL	00351221008226	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU002 8

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:

021	0382_MW130_230911	HDPE (no PTFE)	20 mL	00351221007913	Grey	No	
021	0382_MW130_230911	HDPE (no PTFE)	20 mL	00351221008404	Grey	No	
021	0382_MW130_230911	HDPE (no PTFE)	20 mL	00351221007963	Grey	No	
021	0382_MW130_230911	HDPE (no PTFE)	20 mL	00351221008388	Grey	No	
022	0382_MW129_230911	HDPE (no PTFE)	20 mL	00351221008141	Grey	No	
022	0382_MW129_230911	HDPE (no PTFE)	20 mL	00351221008135	Grey	No	
022	0382_MW129_230911	HDPE (no PTFE)	20 mL	00351221008173	Grey	No	
022	0382_MW129_230911	HDPE (no PTFE)	20 mL	00351221008179	Grey	No	
023	0382_MW124_230913	HDPE (no PTFE)	20 mL	00351221007851	Grey	No	
023	0382_MW124_230913	HDPE (no PTFE)	20 mL	00351221008004	Grey	No	
023	0382_MW124_230913	HDPE (no PTFE)	20 mL	00351221007955	Grey	No	
023	0382_MW124_230913	HDPE (no PTFE)	20 mL	00351221007896	Grey	No	
024	0382_MW123_230913	HDPE (no PTFE)	20 mL	00351221008012	Grey	No	
024	0382_MW123_230913	HDPE (no PTFE)	20 mL	00351221007859	Grey	No	
024	0382_MW123_230913	HDPE (no PTFE)	20 mL	00351221007905	Grey	No	
024	0382_MW123_230913	HDPE (no PTFE)	20 mL	00351221008151	Grey	No	
025	0382_MW122_230912	HDPE (no PTFE)	20 mL	00351221008051	Grey	No	
025	0382_MW122_230912	HDPE (no PTFE)	20 mL	00351221007824	Grey	No	
025	0382_MW122_230912	HDPE (no PTFE)	20 mL	00351221007903	Grey	No	
025	0382_MW122_230912	HDPE (no PTFE)	20 mL	00351221008030	Grey	No	
026	0382_MW121_230912	HDPE (no PTFE)	20 mL	00351221008055	Grey	No	
026	0382_MW121_230912	HDPE (no PTFE)	20 mL	00351221008133	Grey	No	
026	0382_MW121_230912	HDPE (no PTFE)	20 mL	00351221008057	Grey	No	
026	0382_MW121_230912	HDPE (no PTFE)	20 mL	00351221008079	Grey	No	
027	0382_MW120_230912	HDPE (no PTFE)	20 mL	00351221008195	Grey	No	
027	0382_MW120_230912	HDPE (no PTFE)	20 mL	00351221007964	Grey	No	
027	0382_MW120_230912	HDPE (no PTFE)	20 mL	00351221008136	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

027	0382_MW120_230912	HDPE (no PTFE)	20 mL	00351221008011	Grey	No	
028	0382_MW119P_230911	HDPE (no PTFE)	20 mL	00351221008045	Grey	No	
028	0382_MW119P_230911	HDPE (no PTFE)	20 mL	00351221008248	Grey	No	
028	0382_MW119P_230911	HDPE (no PTFE)	20 mL	00351221008191	Grey	No	
028	0382_MW119P_230911	HDPE (no PTFE)	20 mL	00351221008166	Grey	No	
029	0382_MW119_230911	HDPE (no PTFE)	20 mL	00351221008210	Grey	No	
029	0382_MW119_230911	HDPE (no PTFE)	20 mL	00351221008240	Grey	No	
029	0382_MW119_230911	HDPE (no PTFE)	20 mL	00351221007850	Grey	No	
029	0382_MW119_230911	HDPE (no PTFE)	20 mL	00351221008254	Grey	No	
030	0382_MW117_230912	HDPE (no PTFE)	20 mL	00351221008122	Grey	No	
030	0382_MW117_230912	HDPE (no PTFE)	20 mL	00351221008096	Grey	No	
030	0382_MW117_230912	HDPE (no PTFE)	20 mL	00351221008350	Grey	No	
030	0382_MW117_230912	HDPE (no PTFE)	20 mL	00351221008029	Grey	No	
031	0382_MW113_230911	HDPE (no PTFE)	20 mL	00351221007967	Grey	No	
031	0382_MW113_230911	HDPE (no PTFE)	20 mL	00351221008052	Grey	No	
031	0382_MW113_230911	HDPE (no PTFE)	20 mL	00351221008203	Grey	No	
031	0382_MW113_230911	HDPE (no PTFE)	20 mL	00351221007825	Grey	No	
032	0382_MW112P_230911	HDPE (no PTFE)	20 mL	00351221007914	Grey	No	
032	0382_MW112P_230911	HDPE (no PTFE)	20 mL	00351221008298	Grey	No	
032	0382_MW112P_230911	HDPE (no PTFE)	20 mL	00351221008381	Grey	No	
032	0382_MW112P_230911	HDPE (no PTFE)	20 mL	00351221008223	Grey	No	
033	0382_MW112_230911	HDPE (no PTFE)	20 mL	00351221007894	Grey	No	
033	0382_MW112_230911	HDPE (no PTFE)	20 mL	00351221007874	Grey	No	
033	0382_MW112_230911	HDPE (no PTFE)	20 mL	00351221008206	Grey	No	
033	0382_MW112_230911	HDPE (no PTFE)	20 mL	00351221007942	Grey	No	
034	0382_MW005_230912	HDPE (no PTFE)	20 mL	00351221008081	Grey	No	
034	0382_MW005_230912	HDPE (no PTFE)	20 mL	00351221008197	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 56901 ALS Laboratory: ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Jack DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU002 8

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:

034	0382_MW005_230912	HDPE (no PTFE)	20 mL	00351221007927	Grey	No	
034	0382_MW005_230912	HDPE (no PTFE)	20 mL	00351221008232	Grey	No	
035	0382_MW002_230912	HDPE (no PTFE)	20 mL	00351221008344	Grey	No	
035	0382_MW002_230912	HDPE (no PTFE)	20 mL	00351221008110	Grey	No	
035	0382_MW002_230912	HDPE (no PTFE)	20 mL	00351221008131	Grey	No	
035	0382_MW002_230912	HDPE (no PTFE)	20 mL	00351221007834	Grey	No	
036	0026_QC302_230913	HDPE (no PTFE)	20 mL	00351221008007	Grey	No	
036	0026_QC302_230913	HDPE (no PTFE)	20 mL	00351221007870	Grey	No	
036	0026_QC302_230913	HDPE (no PTFE)	20 mL	00351221008139	Grey	No	
036	0026_QC302_230913	HDPE (no PTFE)	20 mL	00351221007855	Grey	No	
037	0026_QC301_230912	HDPE (no PTFE)	20 mL	00351221008185	Grey	No	
037	0026_QC301_230912	HDPE (no PTFE)	20 mL	00351221007969	Grey	No	
037	0026_QC301_230912	HDPE (no PTFE)	20 mL	00351221007940	Grey	No	
037	0026_QC301_230912	HDPE (no PTFE)	20 mL	00351221007881	Grey	No	
038	0026_QC300_230911	HDPE (no PTFE)	20 mL	00351221007827	Grey	No	
038	0026_QC300_230911	HDPE (no PTFE)	20 mL	00351221007958	Grey	No	
038	0026_QC300_230911	HDPE (no PTFE)	20 mL	00351221007972	Grey	No	
038	0026_QC300_230911	HDPE (no PTFE)	20 mL	00351221008264	Grey	No	
039	0382_QC104_230913	HDPE (no PTFE)	20 mL	00351221008127	Grey	No	
039	0382_QC104_230913	HDPE (no PTFE)	20 mL	00351221008154	Grey	No	
039	0382_QC104_230913	HDPE (no PTFE)	20 mL	00351221008010	Grey	No	
039	0382_QC104_230913	HDPE (no PTFE)	20 mL	00351221008231	Grey	No	
040	0382_QC103_230912	HDPE (no PTFE)	20 mL	00351221008343	Grey	No	
040	0382_QC103_230912	HDPE (no PTFE)	20 mL	00351221007878	Grey	No	
040	0382_QC103_230912	HDPE (no PTFE)	20 mL	00351221008028	Grey	No	
040	0382_QC103_230912	HDPE (no PTFE)	20 mL	00351221008159	Grey	No	
041	0382_QC102_230912	HDPE (no PTFE)	20 mL	00351221008300	Grey	No	

CHAIN OF CUSTODY

COC#: **56901** *ALS Laboratory:* ES Sydney Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 13/09/23 12pm	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0382_PFASOMP_23

SITE: 0382

ORDER NO: 60612562_6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_6.1 / ES2021AECOMAU0028

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:

041	0382_QC102_230912	HDPE (no PTFE)	20 mL	00351221008114	Grey	No	
041	0382_QC102_230912	HDPE (no PTFE)	20 mL	00351221008351	Grey	No	
041	0382_QC102_230912	HDPE (no PTFE)	20 mL	00351221007926	Grey	No	
042	0382_QC101_230911	HDPE (no PTFE)	20 mL	00351221008287	Grey	No	
042	0382_QC101_230911	HDPE (no PTFE)	20 mL	00351221007943	Grey	No	
042	0382_QC101_230911	HDPE (no PTFE)	20 mL	00351221008374	Grey	No	
042	0382_QC101_230911	HDPE (no PTFE)	20 mL	00351221008397	Grey	No	
043	0382_QC100_230911	HDPE (no PTFE)	20 mL	00351221008366	Grey	No	
043	0382_QC100_230911	HDPE (no PTFE)	20 mL	00351221008342	Grey	No	
043	0382_QC100_230911	HDPE (no PTFE)	20 mL	00351221008163	Grey	No	
043	0382_QC100_230911	HDPE (no PTFE)	20 mL	00351221007931	Grey	No	

Total Bottle Count: ALS: 172, Non ALS: 0

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 332934

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**60612562/0.1, OMP Holsworthy**
Number of Samples	5 Water
Date samples received	13/09/2023
Date completed instructions received	13/09/2023

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	20/09/2023
Date of Issue	20/09/2023

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Results Approved By

[redacted]

Authorised By

[redacted]

PFAS in Waters Extended					
Our Reference		332934-1	332934-2	332934-3	332934-4
Your Reference	UNITS	0382_QC200_2309	0382_QC201_2309	0382_QC202_2309	0382_QC203_2309
Date Sampled		11/09/2023	11/09/2023	12/09/2023	12/09/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	14/09/2023	14/09/2023	14/09/2023	14/09/2023
Date analysed	-	14/09/2023	14/09/2023	14/09/2023	14/09/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	2.6
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	7.2
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.03	<0.01	64
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	4.3
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.03	0.09	14
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	1.6
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	3.1
Perfluorohexanoic acid	µg/L	<0.01	0.02	<0.01	18
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	1.9
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	5.1
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98	94	93	98
Surrogate $^{13}C_2$ *PFOA*	%	100	103	104	105
Extracted ISTD $^{13}C_3$ *PFBS*	%	92	89	93	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92	92	94	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	99	102	106
Extracted ISTD $^{13}C_4$ *PFBA*	%	96	95	98	66

PFAS in Waters Extended					
Our Reference		332934-1	332934-2	332934-3	332934-4
Your Reference	UNITS	0382_QC200_2309	0382_QC201_2309	0382_QC202_2309	0382_QC203_2309
Date Sampled		11/09/2023	11/09/2023	12/09/2023	12/09/2023
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	98	101	101	95
Extracted ISTD $^{13}C_2$ *PFHxA*	%	93	93	95	78
Extracted ISTD $^{13}C_4$ *PFHpA*	%	92	91	92	67
Extracted ISTD $^{13}C_4$ *PFOA*	%	99	101	99	110
Extracted ISTD $^{13}C_5$ *PFNA*	%	97	102	105	99
Extracted ISTD $^{13}C_2$ *PFDA*	%	100	100	105	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	106	106	107	105
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	102	102	108	108
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	82	79	83	77
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	95	94	103	75
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	103	113	102	86
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	105	114	109	115
Extracted ISTD $^{13}C_8$ *FOSA*	%	98	96	101	96
Extracted ISTD d_3 *N MeFOSA*	%	99	97	99	99
Extracted ISTD d_5 *N EtFOSA*	%	93	93	94	92
Extracted ISTD d_7 *N MeFOSE*	%	98	100	96	98
Extracted ISTD d_9 *N EtFOSE*	%	95	95	93	93
Extracted ISTD d_3 *N MeFOSAA*	%	110	126	125	110
Extracted ISTD d_5 *N EtFOSAA*	%	100	107	108	100
Total Positive PFHxS & PFOS	µg/L	<0.01	0.06	0.09	77
Total Positive PFOA & PFOS	µg/L	<0.01	0.03	0.09	19
Total Positive PFAS	µg/L	<0.01	0.09	0.09	120

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-W1	332934-2
Date prepared	-			14/09/2023	1	14/09/2023	14/09/2023		14/09/2023	14/09/2023
Date analysed	-			14/09/2023	1	14/09/2023	14/09/2023		14/09/2023	14/09/2023
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	115	114
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	110	111
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	115
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	123	123
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	96
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	91	88
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	115	109
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	111
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	115
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	114	113
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	115	111
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	124	118
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	111	109
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	109	104
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	107	99
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	95
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	128	120
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	107
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	112	102
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	105
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	109
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	118	115
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	119	114
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	117	113
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	100	88
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	109	102
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	116	100
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	113
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	89	1	98	93	5	92	88
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	1	100	98	2	98	102

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	332934-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	1	92	91	1	91	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	94	1	92	92	0	92	92
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	103	1	96	100	4	100	105
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	102	1	96	97	1	99	97
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	101	1	98	99	1	97	101
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	1	93	94	1	91	94
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	91	1	92	92	0	92	92
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	1	99	103	4	100	106
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	101	1	97	101	4	97	104
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	103	1	100	100	0	102	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	105	1	106	107	1	106	113
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	113	1	102	106	4	100	112
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	86	1	82	89	8	76	86
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	95	1	95	90	5	95	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	109	1	103	98	5	100	116
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	117	1	105	103	2	111	122
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	100	1	98	100	2	94	97
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	102	1	99	101	2	93	95
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	93	96	3	92	92
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	102	1	98	101	3	92	103

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	332934-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	91	1	95	95	0	91	98
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	126	1	110	116	5	112	131
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	109	1	100	107	7	105	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 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	[redacted]

Sample Login Details

Your reference	60612562/0.1, OMP Holsworthy
Envirolab Reference	332934
Date Sample Received	13/09/2023
Date Instructions Received	13/09/2023
Date Results Expected to be Reported	20/09/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4.5
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Received a PFAS jar labelled 'QC202' - confirmed as 'QC203' as came with other 'QC203' samples

Sampling dates confirmed with client

Please direct any queries to:

[redacted]

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
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Sample ID	AECOM checks	AECOM checks	AECOM checks	AECOM checks	PFAS in Waters Extended	On Hold
0382_QC200_2309	✓	✓	✓	✓	✓	
0382_QC201_2309	✓	✓	✓	✓	✓	
0382_QC202_2309	✓	✓	✓	✓	✓	
0382_QC203_2309	✓	✓	✓	✓	✓	
0382_QC204_2309						✓

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.

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

[redacted]

CONSULTANT: AECOM	ADDRESS / OFFICE: SYDNEY	Destination Laboratory: Envirolab
PROJECT MANAGER (PM): [redacted]	SITE: OMP Holsworthy	
PROJECT NUMBER & TASK CODE: 60612562 / 6.1	P.O. NO.: -	
RESULTS REQUIRED (Date): STANDARD TAT	QUOTE No: EP00[redacted]	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	PFAS Extended Suite - Routine level		HOLD								HOLD	
1	0382-QC200-2309	W	19/23		P	4	X											
2	0382-QC201-2309	W	19/23		"	4	X											
3	0382-QC202-2309	W	19/23		"	4	X											
4	0382-QC203-2309	W	19/23		"	4	X											
5	0382-QC204-2309	W	19/23		"	4	X		X									HOLD MH

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 332934

Date Received: 13/9/23
Time Received: 1410
Received By: DL
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

4.5°C

Forward to Eurofin please!

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: [redacted]	Date: 13/9	Name: [redacted]	Date: 13/9/23	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: ES&D	Time: 1410	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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