Prepared for
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ABN: 68706814312

Ongoing Monitoring Interpretive Report (December 2021 - November 2022)

PFAS OMP - HMAS Albatross

12-Feb-2023
PFAS Ongoing Monitoring Program
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PFAS OMP - HMAS Albatross

Client: Department of Defence

ABN: 68706814312

Prepared by

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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
CSM	Conceptual Site Model
Defence	Department of Defence
DOC	Dissolved organic carbon
DoH	Department of Health
DPI	Department of Primary Industries
DSI	Detailed Site Investigation
EC	Electrical conductivity
EPA	Environment Protection Authority
FSANZ	Food Standards Australia New Zealand
FFTA	Former Firefighting Training Area
GWE	Groundwater Elevation
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
HMAS	His Majesty’s Australian Ship
LOR	Limit of Reporting
MW	Monitoring Well
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
PFAS	Per- and poly-fluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PMAP	PFAS Management Area Plan

Acronym	Term
QA/QC	Quality Assurance and Quality Control
RAN	Royal Australian Navy
SAQP	Sample and Analysis Quality Plan
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Standing Water Level
TACAN	Tactical Air Control and Navigation
TDI	Tolerable Daily Intake
TOC	Total Organic Carbon
TSS	Total suspended solids
EC	Electrical Conductivity
DO	Dissolved Oxygen
ORP	Oxidation Reduction Potential

List of Units

Units	Term
g	Grams
km	Kilometre
L	Litres
m	Metre
mbgs	Metres below ground surface
mbTOC	Metres below top of casing
mg/kg	Milligrams per kilogram
mg/L	Milligrams per litre
mV	Millivolts
µg/L	Micrograms per litre
µS/cm	MicroSiemens per centimetre

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 His Majesty's Australian Ship (HMAS) Albatross (the 'Site'), 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 in surrounding off-Site areas including the Management Area (**Figure F1** in **Appendix A**). The data is required to assist risk management decisions by Defence and State Government agencies to protect human health and the environment and to inform the understanding of the effectiveness of remedial actions.

Monitoring Scope

AECOM completed periodic monitoring of groundwater and surface water between December 2021 and November 2022 in accordance with the sampling and analysis quality plan (SAQP) developed by AECOM (2022a). This monitoring targeted PFAS, namely perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS), and included selected locations on-Site and in surrounding off-Site areas, including the Management Area.

Groundwater Results

Groundwater Flow Directions

Groundwater on the Site, and down-hydraulic gradient of the Site, flows west and north west within the Shoalhaven River Basin, and east/south east within the Clyde River Basin. The flow directions are consistent with previous observations.

PFAS Concentrations

Monitoring results indicated that overall, the concentrations of PFAS in groundwater were generally similar to previous results, with the highest PFAS concentrations detected at monitoring wells located near the identified PFAS source areas. Where outliers were observed, these were considered to be a result of the unprecedented heavy rainfall conditions observed at the Site over the 2021 and 2022 periods.

Surface Water Results

Concentrations of PFAS in surface water did not report any first-time detections or new exceedances of the adopted guidance during the reporting period. New historical maximums were reported in three locations; however, these concentrations were within the same order of magnitude to historical ranges.

Interpretive Assessment

Data collected during the monitoring period were compared to historical data for the included sampling locations.

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

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.

PFAS concentrations were generally lower at off-Site locations than those observed at on-Site locations, in the vicinity of identified source areas.

Localised increases in PFAS concentrations in groundwater were reported in four locations on-Site, of which one is near the identified source areas. The increases are attributed to higher-than-average rainfall events experienced since 2020.

Conceptual Site Model and Risk Summary

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

OMP monitoring between December 2021 and November 2022 has provided additional data to further understand the changing conditions of the 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 overarching risk profile has changed based on the current land use within 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 met the objectives of the OMP. The following conclusions are based on the data collected during the monitoring period:

- Groundwater depths in February 2022 were generally elevated above the 2021 monitoring data, due to the difference in rainfall observed across the Site and surroundings.
- Overall, the concentrations of PFAS in groundwater were generally consistent with the concentrations reported in the 2021 Annual Interpretive Report (AIR) with the exception of new maximums at four locations likely attributed to significant rainfall events during the monitoring period.
- The concentrations of PFAS in surface water were generally consistent with the concentrations reported in the 2021 AIR (AECOM, 2023) with the exception of new maximums at three locations. This is not considered to change the overall risk profile of the Site.
- The CSM was reviewed, and no changes were identified to sources, pathways or receptors at the Site and within the Management Area.
- 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.

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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 His Majesty's Australian Ship (HMAS) Albatross (the 'Site') (**Figure F1** in **Appendix A**).

The monitoring targeted PFAS in groundwater and surface water at selected locations on-Site and off-Site areas, including the Management Area (**Figure F1** in **Appendix A**).

In order to meet the objectives of the OMP[1], the monitoring was undertaken in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2022a).

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 December 2021 and November 2022 (herein referred to as the monitoring period).

1.1 Purpose and 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 or the PFAS Management Area Plan (PMAP) (Defence, 2019).

1.2 Scope

The scope of works for this interpretive report included assessing changes to the distribution of PFAS over the monitoring period (December 2021 to November 2022) 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:

- annual groundwater and surface water sampling (February 2022); and
- biannual surface water sampling (August 2022).

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

- *Sampling Event Factual Report, February 2022. PFAS OMP – HMAS Albatross.* 29 March 2022 (AECOM, 2022b).
- *Sampling Event Factual Report, August 2022. PFAS OMP – HMAS Albatross.* 18 October 2022 (AECOM, 2022c).

These reports are included in **Appendix E**. AECOM also compared data presented in 2022 Ongoing Monitoring Interpretive Report (OMIR) to the data presented in the 2020 Annual Interpretive Report (AIR) (AECOM, 2021) and 2021 AIR (AECOM, 2023).

[1] Presented in Appendix F of PFAS Management Area Plan (PMAP) (Defence, 2019)

2.0 Site Setting

2.1 Site Description

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

Table 1 Site Identification and Setting Summary

Element	Description
Site ID	0026
Site Location	The Site is located approximately 170 km south of Sydney, and approximately 6 km south west of Nowra. The Site is shown on **Figure F1** in **Appendix A**.
Regional Meteorology	The Bureau of Meteorology (BoM) weather station (number 068072) has recorded data since 2020 and presents a record of approximately 23 years. Review of the BoM data indicates the following: • The average maximum monthly temperatures varied from 15.5°C in July to 26.7°C in January in the monitoring period. • The average maximum monthly temperature for the Site historically has varied from 16.8°C in July to 27.6°C in January. • A total of 2555.2 mm of rainfall was recorded in the monitoring period, with June being the driest month (4.6 mm), and March being the wettest month (676.2 mm). • Historically the driest month has been August (averaging 79.0 mm rainfall across the month), and the wettest month has been March (averaging 142.3 mm rainfall across the month). • The climate data available indicates that the Site experienced higher than historically average rainfall during the monitoring period, with four months experiencing greater than four times their historical average of monthly rainfall (March, April, July, and October). These conditions are discussed further in **Section 6.3**.
Topography and Hydrology	The majority of the Site is relatively flat. A ridgeline is present roughly through the centre of the Site with topography in the east dropping steeply from 110 m Australian Height Datum (AHD) to 40 m AHD towards Currambene Creek and the topography in the west of the Site dropping more gradually towards Calymea Creek. Topography to the north of the Site also drops gradually north of Albatross Road, towards Flat Rock Creek. The Site is divided into two basins and seven sub-catchments (refer to *Figure 1: Management Area* in **Appendix D**). The north-western portion of the Site forms part of the Shoalhaven River Basin (west of the ridgeline) while the south and the eastern portion of the Site forms part of the Clyde River Basin (east of the ridgeline). Three freshwater creeks traverse the southern and eastern portions of the Management Area, they are: • Currambene Creek • Yerriyong Gully • Parma Creek. Yerriyong Gully and Parma Creek flow to Currambene Creek, which discharges into Jervis Bay at Huskisson, which is a marine park managed by NSW Department of Primary Industries (DPI).

Element	Description
	Surface water runoff from the southern portion of the Site is generally directed off-Site to the Shoalhaven River (via Calymea Creek, Cabbage Tree Creek or Flat Rock Creek) and Currambene Creek and Yerriyong Gulley which flow into Jervis Bay. Surface water captured within the Site's stormwater drainage network and directed into the Sewage Treatment Plant (STP) is treated and irrigated on-Site. The Detailed Site Investigation (DSI) (Aurecon, 2017) notes that there is potential for the treated effluent dam of the STP to overflow during high rainfall events, potentially releasing water containing PFAS. Irrigated water and overflow discharge primarily flow to Yerriyong Gully, Currambene Creek, towards Jarvis Bay. On 28 September 2023, the Base management team confirmed that no overflow at the STP occurred between December 2021 and November 2022. Surface water run-off from the northern and western portions of the Site drain to Braidwood Road Drain and ultimately the Shoalhaven River. It is noted that Yerriyong Gully and Currambene Creek are not connected to the Clyde River. The distance to the regional waterbodies is as follows: • Currambene Creek located approximately 4.4 km to the south east of the Site. • Jervis Bay located approximately 14.5 km to the south east of the Site. • Shoalhaven River located approximately 5.7 km to the north west of the Site.
Geology and Hydrogeology	The Site is underlain by the Berry Siltstone comprising siltstone, shale and sandstone, underlain by the Nowra Sandstone (quartzose sandstone, minor siltstone plus conglomerate beds). The Berry Siltstone has an approximate thickness of 30 to 60 m, overlying Nowra Sandstone with an approximate thickness of 100 m. The regional aquifer below the Site is divided into two water catchment areas. The north-west portion of the Site forms part of the Shoalhaven River Basin whilst the south and east portions of the Site forms part of the Clyde River Basin (Department of Primary Industries 2016). Groundwater within the Shoalhaven Basin is inferred to flow north to northwest towards the Shoalhaven River (following the topographic profile), while groundwater within the Clyde River Basin is inferred to generally flow south to southeast towards Currambene Creek and Jervis Bay. During the DSI (Aurecon, 2017), the depth to the top of the weathered bedrock was reported to vary between 0.8 and 10 metres below ground surface (mbgs). The DSI also reported that the groundwater across the Management Area is discontinuous, and that groundwater to the east of the Site daylights in various springs and contributes to surface water flow. AECOM notes that the hydrogeological setting is influenced by the complex topography and groundwater and surface water interactions in this area.
Vegetation	Previous baseline vegetation survey (SKM, 2006) conducted at the Site in 2006 identified the following vegetation: • Remnant vegetation (12.5%) • Regenerating native vegetation (9.0%) • Maintained cleared grassland and Defence infrastructure (78.5%).

Element	Description
	No Commonwealth or State listed threatened ecological species were recorded on-Site, although several species are considered to potentially occur (SKM, 2006). The survey (SKM, 2006) reported that some areas of vegetation were considered to be Endangered Ecological Communities listed under the *Threatened Species Conservation Act 1995* (NSW) (TSC Act) including the Illawarra Lowlands Grassy Woodland and Lowland Rainforest.
Land Uses Surrounding the Site	The Site is primarily bordered by private properties zoned as either rural landscape or large lot residential used for low intensity agriculture and residential purposes. Other land uses surrounding the Site include Tingira Child Care Centre, Nowra Hill Public School, a sandstone rock quarry, a sporting field and Albatross Aviation Technology Park. Colymea State Conservation Area (Colymea State Forest), is north west of the Site, and within the Management Area, while Parma Creek Nature Reserve is south of the Management Area.

2.2 Management Area

The Management Area comprises the Site and also includes discrete residential properties with surface water, groundwater and soil containing PFAS concentrations within the Braidwood Road drain sub-catchment, Nowra Creek sub-catchment, Upper Currambene Creek sub-catchment and Cabbage Tree Creek sub-catchment.

The Management Area is shown on **Figure F1** in **Appendix A**.

2.3 PFAS Source Areas

The PMAP (Defence, 2019) 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 identified the following PFAS source areas:

- Primary Sources (PFAS impacted soil):
  - Soil at the Former Firefighting Training Area (FFTA).
  - Soil at the STP
- Secondary Sources (where PFAS has migrated to a location where it creates a concentration of impact):
  - Soil at the STP irrigation areas
  - Soil at the hangars, flight lines and associated activities
  - Groundwater beneath the FFTA, STP, STP irrigation area, hangar, flight lines and associated activities.
  - Surface water from STP, hangars, flight lines and associated activities.

The figure (*Figure 3.2: Key areas of concern*) from PMAP (Defence, 2019) showing the key areas of concern and potential PFAS sources is provided in **Appendix D**.

3.0 Sampling and Analytical Methodology

3.1 Sampling Methodology

The SAQP (AECOM, 2022a) 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.

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

A summary of the OMP monitoring events completed in general accordance with the SAQP between December 2021 and November 2022, is provided in **Table 2**.

Table 2 Summary of Monitoring Events

Monitoring Event (Sampling dates)	Scope as per SAQP	Samples Collected	Analysis
February 2022 (Annual sampling) (7 – 10 February 2022)	**On-Site**		PFAS extended suite
	4 SW samples	4 SW samples	
	20 GW samples	19 GW samples	
	Off-Site		
	9 SW samples	9 SW samples	
	8 GW samples	7 GW samples	
August 2022 (Biannual sampling) (15 August 2022)	**On-Site**		PFAS extended suite
	4 SW samples	4 SW samples	
	Off-Site		
	9 SW samples	9 SW samples	

Notes: SW = surface water; GW = groundwater

Some locations could not be sampled during the sampling events. Impediments and changes to the proposed sampling locations 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
Annual Sampling Event – February 2022		
28 groundwater locations are identified to be sampled as part of the annual sampling event	Monitoring well MW004 (on-Site) could not be located. The well appears to have been overgrown with long grass since the location was last sampled the year prior. Note that AECOM attempted to locate this well using global positioning service (GPS) coordinates and a metal detector.	AECOM does not consider the lack of sampling from this location to constitute a significant data gap as the existing monitoring well network provided sufficient coverage in the area of MW004. It is noted that MW004 was subsequently located and sampled during the February 2023 sampling event.
	Monitoring well MW032 (located on private property) was observed to be destroyed and could not be sampled. The landowner informed the field team that the well may have been damaged earlier in 2021, when civil works were completed on the dam in their property, which was near the well.	Following discussions with GHD Pty Ltd (GHD), Defence's Lead Consultant (LC), it was agreed on 30 January 2023 that monitoring well MW032 would be removed from the OMP scope as the groundwater at this location is unlikely to be hydraulically connected to groundwater beneath the Site.
Groundwater samples are to be collected using HydraSleeves™	Groundwater samples from MW012P, MW015, MW018, MW026 and MW046 were collected using dedicated disposable bailers, as HydraSleeves™ had either been removed by a third party prior to AECOM's arrival on-Site, or had failed to deploy appropriately when removed from the well during the sampling event. Groundwater samples from MW005, MW008, MW009 and MW039 were collected using low-flow sampling methodology (MicroPurge pump) following the temporary removal of continuous water level data loggers at the request of Defence's LC.	As the concentrations of PFAS reported in these samples were either within the historical range for each location (MW005, MW009, MW012P, MW015, MW018, MW026, MW046), or within the same order of magnitude of historical results (MW008, MW039), the change in sampling methodology is not considered to impact upon the reliability of the data for the purposes of the OMP.

SAQP Requirement	Sampling Event Deviation	Impact of deviation on data set
Surface water samples are to be collected by lowering a laboratory supplied container into the water with the cap immediately applied once the container is full.	Due to safety and access considerations, the surface water sample at location SW001 was collected using a dedicated disposable bailer, before being decanted into laboratory supplied bottles.	Given that sampling results for SW001 were within the historical range reported at this location, the change in sampling methodology is not considered to impact upon the reliability of the data for the purposes of the OMP.
Biannual Surface Water Sampling Event – August 2022		
Surface water samples are to be collected by lowering a laboratory supplied container into the water with the cap immediately applied once the container is full.	Due to safety and access considerations, the surface water samples at locations SW001, SW005, SW009 and SW013 were collected using dedicated disposable bailers, before being decanted into laboratory supplied bottles.	Given that sampling results for SW001, SW005, SW009, and SW013 were within the historical range reported at these locations, the change in sampling methodology is not considered to have impacted upon the reliability of the data for the purposes of the OMP.

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 (QA/QC) data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the factual and annual interpretive reports.

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 (DCMM) requirements.

5.0 Assessment Criteria

Adopted screening criteria references national guidance in the form of PFAS National Environmental Management Plan (NEMP) (Heads of Environment Protection Authority Australia and New Zealand [HEPA], 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:

- HEPA, 2020. PFAS 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. This document is based on the works undertaken by FSANZ in 2017 (FSANZ 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water. August 2019
- National Environment Protection Council (NEPC), 2013. National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) Schedule B1, 1999 as amended in 2013.

The adopted PFAS screening criteria to assess the surface water and groundwater data generated as part of the 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, 2020 are from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. DoH summarise the TDI for PFOS and PFOA from FSANZ, 2017 and the methodology described in Chapter 6.3.3 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines (ADWG), 2016 to determine drinking water values. For PFHxS, DoH 2017 noted that '*FSANZ concluded that there was not enough toxicological and epidemiological information to justify establishing a tolerable daily intake. However, as a precaution, and for the purposes of site investigations, the PFOS tolerable daily intake should apply to PFHxS. In practice, this means that the level of PFHxS exposure should be added to the level of PFOS exposure; and this combined level be compared to the tolerable daily intake for PFOS*'. *All groundwater results 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	The previous values presented in the PFAS NEMP Version 1.0, HEPA 2018 were from DoH 2017, which published final health-based guidance values for PFAS for use in site investigations in Australia. However, in 2019 the NHMRC's water quality advisory recommended an alternative methodology to calculate recreational guideline value. Instead of basing it on an ingestion rate of 0.2 L of water per day (as per the *Australian Drinking Water Guidelines* [ADWG] formula), NHMRC (2019) adjusted this rate with consideration of an event frequency (150 events / year) to calculate an annual ingestion rate of 30 L per year. These NHMRC (2019) values have since been adopted under Version 2.0 of 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	Compound	Criteria	Comment/Reference
Water – surface water and groundwater	Freshwater	PFOS	0.00023 µg/L	The values are from the PFAS NEMP Version 2.0 (HEPA, 2020) which endorsed the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 99% level of protection has been applied for slightly to moderately disturbed ecosystems. This approach is generally adopted for chemicals that bioaccumulate and biomagnify in wildlife. It is proposed that the laboratory LOR is adopted for the purposes of preliminary screening of analytical water results, rather than sole use of the criteria value. *Groundwater and surface water results will be compared to these criteria.*
		PFOA	19 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 a summary of works completed during the monitoring period was provided by the LC (GHD).

6.1.1 Additional Analytical Data

The LC advised that limited additional analytical data was collected during the current monitoring period for the Site, which would not alter any interpretations made within this report.

6.1.2 PFAS Remediation Projects

The LC advised that no remediation works were undertaken at the Site during the monitoring period, and that Defence is planning the design of the Remediation Action Plan (RAP) for the FFTA.

6.2 Infrastructure Projects

The LC noted that an infrastructure project to replace the Albatross Tactical Air Navigation (TACAN) site had been completed during the monitoring period. The works involved the construction of a road, requiring local soil movements, where the excavated soils were re-used at the Site. The works do not constitute a change to the understanding of the CSM.

AECOM understands that there are two infrastructure projects that are currently planned to be undertaken by Defence at the Site in the future, details of which are as follows:

- Runway resurfacing and drainage upgrades, which will include significant soil and drainage modifications to runway areas
- Hangar upgrades, which will include drainage modifications at the western boundary.

6.3 Significant Weather Events

The rainfall activity during the sampling events completed within the 'monitoring period' are summarised in **Table 6** below. The data is from the BOM monitoring station located at Nowra RAN Air Station (Station ID 068072). The occurrence of wet weather events (days with rainfall > 15 mm) is also provided in **Table 6**.

Note that the SAQP defines an extreme or high rainfall event as a cumulative rainfall total of greater than 40 mm within a single 24-hour period. There was a total of 40 wet weather events, which included 20 extreme rainfall events recorded within the monitoring period.

The data for the reporting period is presented against historical ranges on record since the weather station opened in 2020 in **Figure 1** below.

Figure 1 Recorded Rainfall (Monitoring Period) Against Historic Average

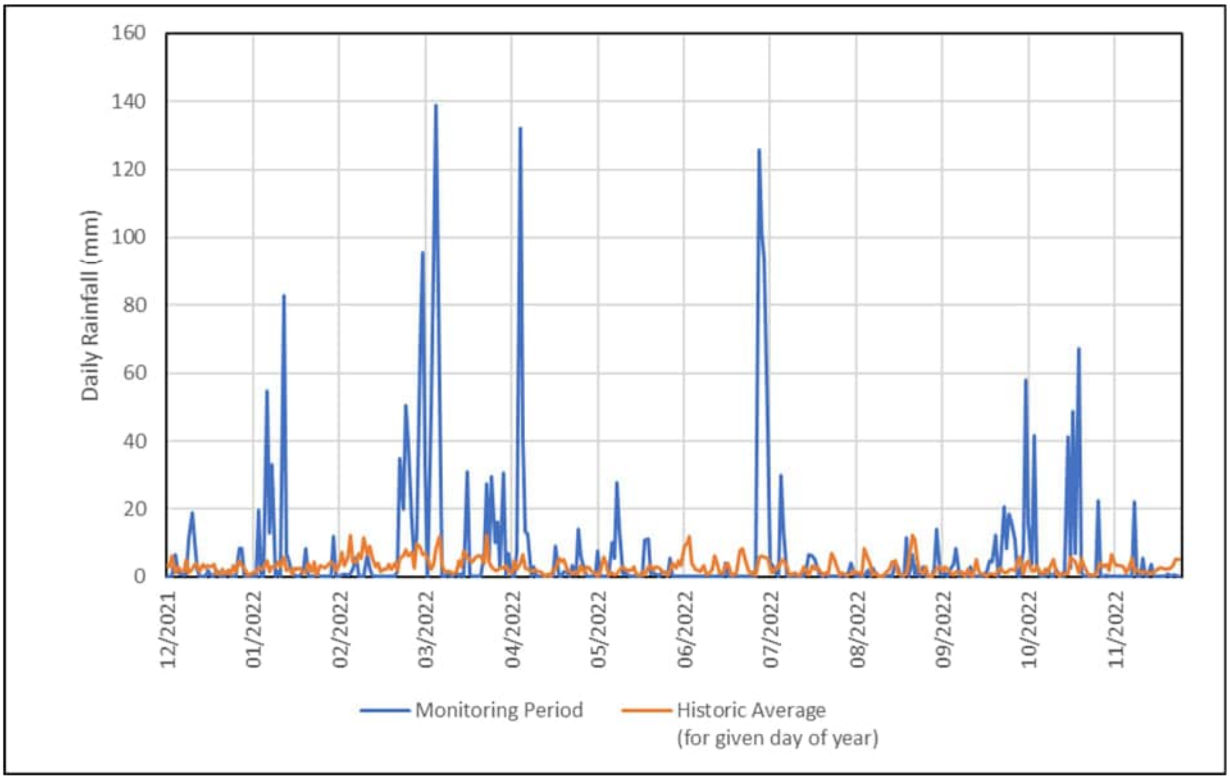

Table 6 Rainfall during sampling events

Sampling Event and Date	Recorded rainfall (mm) (BOM, 2023)	Wet weather events during the monitoring period (days with rainfall >15 mm)
February 2022 (Annual Sampling) (7 – 10 February 2022)	5.8 mm	0
August 2022 (Biannual Sampling) (15 August 2022)	0 mm	0

As noted in **Table 1** in **Section 2.1** the annual rainfall at the Site was 2555.2 mm for the monitoring period, compared to 1030.8 mm per annum average for the monitoring station. Rainfall in the monitoring period was significantly higher than average, following a series of significant rainfall events in January, March, April, July, and October 2022.

It is noted that a rainfall event had not been recorded for 25 days prior to the February 2022 sampling event.

Historically, the Site is wettest in March and driest in June. During the monitoring period, March was the wettest with four times the average monthly rainfall recorded (676.2 mm, greater than the average of 142.3 mm).

7.0 Monitoring Data Summary

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

- 7 to 10 February 2022 (February 2022, AECOM, 2022b)
- 15 August 2022 (August 2022, AECOM, 2022c)

The sample locations are shown on **Figure F2** in **Appendix A** and results are summarised in following sections and on **Figures F3** to **F8.** Groundwater elevations shown on **Figure F9** 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 and Management Area that are available in the Defence database.

7.1 Groundwater Results

7.1.1 Groundwater Field Observations

The field observations during the groundwater sampling in February 2022, including groundwater elevation and parameters, are provided in **Table T1** and **Table T2** in **Appendix B** and are summarised below.

The groundwater observations range from clear to light grey, brown, and light yellow (MW044), with no to medium turbidity. Other observations of note include:

- Septic odour and black organic suspended solids at MW006.
- Sweet odour at MW009P.
- Red and grey suspended solids were also observed.
- No notable estate works or training activities were observed in the vicinity of the sampling locations.
- All wells were noted to be in good condition, with the exception of MW032, which was observed to be destroyed and could not be sampled.

7.1.2 Groundwater Elevations

The standing water level (SWL) was measured in all monitoring wells, prior to sampling and during a targeted gauging round conducted for each sampling event, to evaluate groundwater elevations (GWE). The SWL and GWE from the February 2022 event are presented in **Table T1** in **Appendix B** and summarised by sub-catchment in **Table 7** and **Table 8** below, for siltstone aquifer and perched water respectively.

Table 7 Summary of groundwater elevations: siltstone aquifer

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
Braidwood Road drain sub-catchment (On-Site = MW001, MW002, MW012; Off-Site = MW018, MW024, MW031, MW044)					
February 2022	7	0.335 (MW012)	1.699 (MW018)	96.165 (MW024)	115.282 (MW001)
Cabbage Tree Creek sub-catchment (Off-Site = MW072, MW073)					
February 2022	2	4.390 (MW072)	7.451 (MW073)	103.716 (MW072)	113.468 (MW073)
Flat Rock Creek sub-catchment (On-Site = MW004*, MW037)					
February 2022	1	3.856 (MW037)		131.318 (MW037)	

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
Upper Currambene Creek sub-catchment (On-Site = MW003, MW005, MW029, MW038; Off-Site = MW026, MW032*)					
February 2022	5	3.391 (MW029)	12.495 (MW003)	26.249 (MW026)	106.763 (MW029)
Yerriyong Gully sub-catchment (On-Site = MW006, MW008, MW009, MW015, MW016, MW017, MW039, MW045, MW046)					
February 2022	9	0.330 (MW009)	6.852 (MW008)	71.883 (MW006)	125.685 (MW016)

Note: mAHD = metres relative to Australian Height datum, mbTOC = metres below Top of Casing
Min = Minimum, Max = Maximum
* = Location in scope but not sampled during monitoring period

Table 8 Summary of groundwater elevations: perched water

Gauging Event	No. Wells	Min. SWL (mbTOC)	Max. SWL (mbTOC)	Min. GWE (mAHD)	Max. GWE (mAHD)
Braidwood Road drain sub-catchment (On-Site = MW012P)					
February 2022	1	0.500 (MW012P)		103.586 (MW012P)	
Yerriyong Gully sub-catchment (On-Site = MW009P)					
February 2022	1	0.471 (MW009P)		116.163 (MW009P)	

Groundwater depths (for both the siltstone aquifer and perched water) in February 2022 were generally consistent with results obtained in February 2021 (2021 AIR (AECOM, 2023)).

7.1.3 Groundwater Flow Direction

Based on the SWL and survey data, the interpreted potentiometric contours for the February 2022 monitoring event are presented on **Figure F9** in **Appendix A**. Gauging data from selected groundwater monitoring wells were omitted from the contour plan, due to the following:

- the screens target perched aquifer at MW009P and MW012P.
- the SWL was above ground level (but remaining within the monument) at MW024.

While the contours are generally similar to the DSI (Aurecon, 2017), with two groundwater basins present with the ridgeline running from Nowra Hill in the north-east through to the south west corner of the Site, a number of changes have been made following consultation with Defence's LC as the understanding of hydrogeological conditions continues to be refined.

It is noted that the dataset used for the DSI (Aurecon, 2017) covered a larger area, which was beyond the Management Area when compared to the dataset presented within the 2020 AIR (AECOM, 2021), 2021 AIR (AECOM, 2023), and this 2022 OMIR. As part of this 2022 OMIR, AECOM has reviewed the groundwater elevation plan presented in the 2021 AIR (AECOM, 2023).

The inferred groundwater flow direction indicates the presence of a groundwater divide along the south west to north east ridgeline, with groundwater on the north flowing to the north and east towards the Shoalhaven River (within the Shoalhaven River Basin), and in the south (from Nowra Hill) the flows are generally to the south west and south east towards Currambene Creek and Jervis Bay (Clyde River Basin).

Although no data was collected beyond Nowra Hill to the north-east in this 2022 OMIR, as per 2021 AIR (AECOM, 2023), it is however likely that groundwater flow from Nowra Hill towards the north-east is still occurring and consistent with historical data.

It is also noted that during the monitoring period fewer groundwater monitoring locations were gauged outside of the Management Area boundary to the northwest and southeast of the Site when compared to the 2021 AIR (AECOM, 2023), resulting in less detail in contour interpretation in these areas.

Therefore, the groundwater flow directions presented on **Figure F9** in **Appendix A** provide a general understanding of the regional groundwater flow direction.

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 February 2022 are presented in **Table T2** in **Appendix B** and summarised below in **Table 9** (siltstone aquifer) and **Table 10** (perched water) for locations within each sub-catchment.

The readings presented in **Table 9** and **Table 10** indicate:

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

Table 9 Summary of groundwater quality parameters: siltstone aquifer

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Redox Potential, Corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Braidwood Road drain sub-catchment (On-Site = MW001, MW002, MW012; Off-Site = MW018, MW024, MW031, MW044)										
February 2022	0.88 (MW044)	3.78 (MW018)	19.0 (MW024)	25.8 (MW018)	356 (MW044)	10,172 (MW002)	5.37 (MW031)	7.16 (MW018)	252 (MW044)	342 (MW031)
Cabbage Tree Creek sub-catchment (Off-Site = MW072, MW073)										
February 2022	1.40 (MW073)	1.60 (MW072)	19.6 (MW072)	20.9 (MW073)	7,787 (MW073)	11,433 (MW072)	6.77 (MW073)	6.95 (MW072)	254 (MW072)	310 (MW073)
Flat Rock Creek sub-catchment (On-Site = MW004*, MW037)										
February 2022	1.73 (MW037)		18.5 (MW037)		3,082 (MW037)		6.57 (MW037)		291 (MW037)	
Upper Currambene Creek sub-catchment (On-Site = MW003, MW005, MW029, MW038; Off-Site = MW026, MW032*)										
February 2022	1.41 (MW003)	3.86 (MW029)	18.8 (MW029)	21.1 (multiple)	448 (MW005)	7,749 (MW003)	6.24 (MW005)	7.42 (MW029)	171 (MW003)	333 (MW029)
Yerriyong Gully sub-catchment (On-Site = MW006, MW008, MW009, MW015, MW016, MW017, MW039, MW045, MW046)										
February 2022	0.27 (MW009)	2.41 (MW015)	18.8 (MW046)	23.9 (MW039)	102 (MW015)	8,516 (MW016)	4.45 (MW046)	7.20 (MW009)	158 (MW009)	380 (MW046)

Note: * = Location in scope but not sampled during monitoring period

Table 10 Summary of groundwater quality parameters: perched water

Sampling Event	Dissolved Oxygen (mg/L)	Temperature (°C)	Electrical Conductivity (µS/cm)	pH (pH units)	Redox Potential, Corrected (mV)
Braidwood Road drain sub-catchment (On-Site = MW012P)					
February 2022	2.08 (MW012P)	23.8 (MW012P)	631 (MW012P)	6.19 (MW012P)	255 (MW012P)
Yerriyong Gully sub-catchment (On-Site = MW009P)					
February 2022	1.85 (MW009P)	24.6 (MW009P)	169 (MW009P)	5.09 (MW009P)	306 (MW009P)

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 February 2022 are presented spatially on **Figure F3** to **Figure F4** 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 (off-Site locations), in **Appendix C** for the areas and locations in **Table 11**, below.

Table 11 Temporal trend graphs of groundwater locations

Graph ID	Source Areas and Areas of Interest	Groundwater locations
G1, G2	FFTA	MW009, MW009P, MW045, MW046
G3, G4	Former AFFF exercise area and current STP	MW006, MW008
G5, G6	STP irrigation area	MW016, MW017
G7, G8	Vicinity of eastern site boundary	MW001, MW002, MW003, MW005, MW029
G9, G10	Off-Site Locations (Northwest and Southeast of Site)	MW024, MW026, MW072, MW073

A summary of groundwater results from February 2022 is provided in **Table 12** (siltstone aquifer) and **Table 13** (perched water) for locations within each sub-catchment.

Deviations from the historical dataset for groundwater are summarised in **Table 14** to **Table 16**.

Table 12 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in groundwater: siltstone aquifer

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
Braidwood Road drain sub-catchment (On-Site = MW001, MW002, MW012; Off-Site = MW018, MW024, MW031, MW044)						
February 2022	7 Primary, 3 QC	PFOA	<LOR (multiple) to 0.01 µg/L (MW044)	1	0	0
		PFOS	<LOR (multiple) to 0.04 µg/L (MW044)	3	NA	3
		PFOS+PFHxS	<LOR (multiple) to 0.36 µg/L (MW044)	6	2	NA
Cabbage Tree Creek sub-catchment (Off-Site = MW072, MW073)						
February 2022	2 Primary, 1 QC	PFOA	<LOR (multiple)	0	0	0
		PFOS	<LOR (multiple)	0	NA	0
		PFOS+PFHxS	<LOR (multiple)	0	0	NA
Flat Rock Creek sub-catchment (On-Site = MW004*, MW037)						
February 2022	1 Primary, 1 QC	PFOA	<LOR (MW037)	0	0	0
		PFOS	<LOR (MW037)	0	NA	0
		PFOS+PFHxS	<LOR (MW037)	0	0	NA
Upper Currambene Creek sub-catchment (On-Site = MW003, MW005, MW029, MW038; Off-Site = MW026, MW032*)						
February 2022	5 Primary	PFOA	<LOR (multiple) to 0.60 µg/L (MW005)	3	1	0
		PFOS	<LOR (MW038) to 20 µg/L (MW005)	4	NA	4
		PFOS+PFHxS	0.02 µg/L (MW003) to 31.7 µg/L (MW005)	5	3	NA
Yerriyong Gully sub-catchment (On-Site = MW006, MW008, MW009, MW015, MW016, MW017, MW039, MW045, MW046)						
February 2022	9 Primary, 1 QC	PFOA	<LOR (multiple) to 0.83 µg/L (MW008)	5	1	0
		PFOS	<LOR (MW016) to 12.7 µg/L (MW008)	8	NA	8
		PFOS+PFHxS	<LOR (MW016) to 37 µg/L (MW008)	8	7	NA

Notes:

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

* = Location in scope but not sampled during monitoring period; multiple = the value applies to multiple locations; NA = Not applicable

Table 13 Summary of PFOA, PFOS and PFOS+PFHxS Concentrations in Groundwater: 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	No. of Samples[1] with Exceedances of Ecological Criteria
Braidwood Road drain sub-catchment (On-Site = MW012P)						
February 2022	1 Primary	PFOA	0.02 µg/L (MW012P)	1	0	0
		PFOS	0.57 µg/L (MW012P)	1	NA	1
		PFOS+PFHxS	1.00 µg/L (MW012P)	1	1	NA
Yerriyong Gully sub-catchment (On-Site = MW009P)						
February 2022	1 Primary	PFOA	8.63 µg/L (MW009P)	1	1	0
		PFOS	333 µg/L (MW009P)	1	NA	1
		PFOS+PFHxS	400 µg/L (MW009P)	1	1	NA

Notes:

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

* = Location in scope but not sampled during monitoring period

multiple = the result was obtained at multiple locations

NA = Not applicable

During the monitoring period, no first-time detections of PFOS, PFOS+PFHxS and/or PFOA were reported. One new exceedance of drinking water guidelines was reported (as presented in **Table 14**). No new exceedances of ecological (freshwater 99%) guidelines were reported. Three locations obtained new maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA, as presented in **Table 15** below, and four locations obtained new minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA, as presented in **Table 16** below.

Table 14 Groundwater Results – New Exceedances (Drinking Water) of PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Details
Feb 2022	Yerriyong Gully sub-catchment	MW008	PFOA (0.83 µg/L)

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

Sampling Event	Area	Location	Details
Feb 2022	Upper Currambene Creek sub-catchment	MW005	PFOS (20 µg/L)
		MW038	PFOS+PFHxS (0.06 µg/L)
	Yerriyong Gully sub-catchment	MW008	PFOA (0.83 µg/L)
		MW008	PFOS (12.7 µg/L)
		MW008	PFOS+PFHxS (37 µg/L)
		MW039	PFOS (0.04 µg/L)
		MW039	PFOS+PFHxS (0.05 µg/L)

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

Sampling Event	Area	Location	Details
Feb 2022	Braidwood Road drain sub-catchment	MW044	PFOA (<LOR)
		MW044	PFOS (0.02 µg/L)
		MW044	PFOS+PFHxS (0.16 µg/L)
	Yerriyong Gully sub-catchment	MW006	PFOS (4.45 µg/L)
		MW006	PFOS+PFHxS (7.41 µg/L)
		MW009	PFOS+PFHxS (1.99 µg/L)
		MW009P	PFOA (8.63 µg/L)

7.2 Surface Water Results

7.2.1 Surface Water Field Observations

The location of surface water samples are shown on **Figure F2** in **Appendix A**, and field observations made during the surface water sampling events, including parameters, are provided in **Table T3** in **Appendix B**.

The field observations from the two surface water sampling events are summarised below. Note that no notable estate works or training activities were observed in the vicinity of the sampling locations during the two sampling events.

February 2022

- Surface water was observed to range from clear to light olive brown, brown (SW018), and pale yellow (SW004B), with no turbidity to medium turbidity
- Septic odour and a light olive brown colour were observed at SW009. No other odours were observed at the locations sampled

- Suspended solids (organic matter) was observed at SW007, and minor suspended solids were observed at SW002
- Possible biological sheens were observed at SW001 and SW002.

August 2022

- Surface water was observed to range from clear, to brown, and yellow, with no turbidity to medium turbidity
- Sulphuric odour at SW002, and organic odour at SW006, SW007, and SW009
- Sheens (possible biological) were observed at SW001 and SW002.

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 February 2022 and August 2022 events are presented in **Table T3** in **Appendix B** and summarised below in **Table 17** for locations within each sub-catchment.

Table 17 Summary of surface water quality parameters

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Redox Potential, corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Braidwood Road drain sub-catchment (On-Site = SW007, SW018; Off-Site = SW005, SW006, SW020)										
February 2022	1.75 (SW007)	6.52 (SW020)	21.9 (SW020)	25.7 (multiple)	438.3 (SW006)	641.0 (SW007)	6.83 (SW007)	8.21 (SW020)	241.4 (SW020)	299.8 (SW007)
August 2022	3.06 (SW007)	11.26 (SW020)	11.9 (SW007)	14.3 (SW005)	296.4 (SW020)	970.0 (SW018)	4.77 (SW018)	6.88 (SW005)	310.6 (SW018)	389.5 (SW006)
Cabbage Tree Creek sub-catchment (Off-Site = SW001)										
February 2022	1.52		22.7		501.0		7.07		284.5	
August 2022	5.20		12.1		990.0		6.63		368.7	
Calymea Creek sub-catchment (Off-Site = SW004B)										
February 2022	4.60		21.6		284.5		7.18		252.7	
August 2022	7.85		12.7		334.5		7.09		338.3	
Currambene Creek sub-catchment (Off-Site = SW008)										
February 2022	6.50		20.8		852.0		7.73		297.4	
August 2022	9.62		11.7		922.0		7.25		377.7	
Flat Rock Creek sub-catchment (Off-Site = SW002)										
February 2022	1.30		23.0		472.1		6.83		230.2	
August 2022	4.57		12.4		783.0		6.39		298.4	
Parma Creek sub-catchment (Off-Site = SW013, SW014)										
February 2022	4.63 (SW013)	5.76 (SW014)	23.0 (SW013)	23.7 (SW014)	247.1 (SW014)	605.0 (SW013)	7.47 (SW013)	7.52 (SW014)	277.3 (SW014)	286.8 (SW013)
August 2022	7.20 (SW013)	7.94 (SW014)	12.9 (SW013)	13.3 (SW014)	269.1 (SW014)	782.0 (SW013)	6.77 (SW014)	7.11 (SW013)	395.4 (SW013)	401.3 (SW014)

Sampling Event	Dissolved Oxygen (mg/L)		Temperature (°C)		Electrical Conductivity (µS/cm)		pH (pH units)		Redox Potential, corrected (mV)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Yerriyong Gully sub-catchment (On-Site = SW009*, SW012)										
February 2022	5.83 (SW012)	9.45 (SW009)	23.6 (SW012)	31.7 (SW009)	475.2 (SW012)	629.0 (SW009)	7.91 (SW012)	8.88 (SW009)	290.0 (SW012)	293.3 (SW009)
August 2022	10.80 (SW009)	11.65 (SW012)	12.3 (SW012)	14.3 (SW009)	524.0 (SW009)	594.0 (SW012)	7.47 (SW012)	7.98 (SW009)	376.3 (SW009)	396.7 (SW012)

Note: * = SW009 sample is collected from the STP dam, not a surface water body

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

- Moderately to well oxygenated conditions
- Generally fresh to brackish water conditions
- Moderately acidic to slightly alkaline conditions
- Oxidising conditions
- Temperature ranges are considered consistent with background conditions for the time of year of the sampling being conducted in each event.

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 February 2022 and August 2022 are presented spatially on **Figure F5** to **Figure F8** in **Appendix A**. The monitoring activities are summarised in the OMP Sampling Event Factual Reports provided in **Appendix F.** The interpretive assessment of the surface water analytical results is discussed in **Section 8.5** and **Section 8.6**.

Additionally, historical surface water concentrations of PFOS+PFHxS and PFOA have been displayed graphically on temporal trend graphs, by sub-catchment / area of interest 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	On-Site	SW007, SW009, SW018
G13, G14	Site boundary condition	SW006, SW008, SW012, SW020
G15, G16	Off-Site – Management Area	SW001, SW002, SW004B, SW005, SW013, SW014

A summary of surface water results from February 2022 and August 2022 is provided in **Table 19** for locations within each sub-catchment.

Deviations from the historical dataset for surface water are summarised in **Table 20** and **Table 21**.

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	No. of Samples[1] with Exceedances of Ecological Criteria
Braidwood Road drain sub-catchment (On-Site = SW007, SW018; Off-Site = SW005, SW006, SW020)						
February 2022	5 Primary	PFOA	0.01 µg/L (SW007) to 0.19 µg/L (SW018)	5	0	0
		PFOS	0.28 µg/L (SW007) to 3.82 µg/L (SW018)	5	NA	5
		PFOS+PFHxS	0.52 µg/L (SW007) to 7.09 µg/L (SW018)	5	4	NA
August 2022	5 Primary, 4 QC	PFOA	0.03 µg/L (SW020) to 0.43 µg/L (SW006)	9	0	0
		PFOS	0.77 µg/L (SW020) to 12.2 µg/L (SW006)	9	NA	9
		PFOS+PFHxS	1.60 µg/L (SW007) to 16.9 µg/L (SW006)	9	6	NA
Cabbage Tree Creek sub-catchment (Off-Site = SW001)						
February 2022	1 Primary	PFOA	<LOR (SW001)	0	0	0
		PFOS	0.05 µg/L (SW001)	1	NA	1
		PFOS+PFHxS	0.09 µg/L (SW001)	1	0	NA
August 2022	1 Primary	PFOA	<LOR (SW001)	0	0	0
		PFOS	0.03 µg/L (SW001)	1	NA	1
		PFOS+PFHxS	0.07 µg/L (SW001)	1	0	NA
Calymea Creek sub-catchment (Off-Site = SW004B)						
February 2022	1 Primary	PFOA	<LOR (SW004B)	0	0	0
		PFOS	0.19 µg/L (SW004B)	1	NA	1
		PFOS+PFHxS	0.33 µg/L (SW004B)	1	0	NA

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
August 2022	1 Primary	PFOA	<LOR (SW004B)	0	0	0
		PFOS	0.14 µg/L (SW004B)	1	NA	1
		PFOS+PFHxS	0.25 µg/L (SW004B)	1	0	NA
Currambene Creek sub-catchment (Off-Site = SW008)						
February 2022	1 Primary	PFOA	0.1 µg/L (SW008)	1	0	0
		PFOS	2.21 µg/L (SW008)	1	NA	1
		PFOS+PFHxS	4.26 µg/L (SW008)	1	1	NA
August 2022	1 Primary	PFOA	0.11 µg/L (SW008)	1	0	0
		PFOS	1.28 µg/L (SW008)	1	NA	1
		PFOS+PFHxS	3.17 µg/L (SW008)	1	1	NA
Flat Rock Creek sub-catchment (Off-Site = SW002)						
February 2022	1 Primary, 1 QC	PFOA	<LOR (SW002)	0	0	0
		PFOS	0.01 µg/L (SW002) to 0.02 µg/L (SW002)	2	NA	2
		PFOS+PFHxS	0.04 µg/L (SW002) to 0.06 µg/L (SW002)	2	0	NA
August 2022	1 Primary	PFOA	<LOR (SW002)	0	0	0
		PFOS	0.01 µg/L (SW002)	1	NA	1
		PFOS+PFHxS	0.03 µg/L (SW002)	1	0	NA
Parma Creek sub-catchment (Off-Site = SW013, SW014)						
February 2022	2 Primary, 1 QC	PFOA	<LOR (SW014) to 0.07 µg/L (SW013)	2	0	0
		PFOS	<LOR (SW014) to 1.64 µg/L (SW013)	2	NA	2
		PFOS+PFHxS	<LOR (SW014) to 3.18 µg/L (SW013)	2	2	NA

Sampling Event	No. of Samples[1]	Compound	Concentration Range (µg/L) in Sampling Event	No. of Samples[1] with Concentration > LOR	No. of Samples[1] with Exceedances of Human Health Criteria	No. of Samples[1] with Exceedances of Ecological Criteria
August 2022	2 Primary	PFOA	<LOR (SW014) to 0.06 µg/L (SW013)	1	0	0
		PFOS	0.01 µg/L (SW014) to 1.03 µg/L (SW013)	2	NA	2
		PFOS+PFHxS	0.01 µg/L (SW014) to 2.19 µg/L (SW013)	2	1	NA
Yerriyong Gully sub-catchment (On-Site = SW009*, SW012)						
February 2022	2 Primary	PFOA	0.06 µg/L (SW012) to 0.19 µg/L (SW009)	2	0	0
		PFOS	1.18 µg/L (SW012) to 11.8 µg/L (SW009)	2	NA	2
		PFOS+PFHxS	2.61 µg/L (SW012) to 16.6 µg/L (SW009)	2	2	NA
August 2022	2 Primary	PFOA	0.13 µg/L (SW012) to 0.21 µg/L (SW009)	2	0	0
		PFOS	3.25 µg/L (SW012) to 8.44 µg/L (SW009)	2	NA	2
		PFOS+PFHxS	6.4 µg/L (SW012) to 12.4 µg/L (SW009)	2	2	NA

Notes:

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

* = SW009 sample is collected from the STP dam, not a surface water body

multiple = the value applies to multiple locations

NA = Not applicable

The results are summarised below:

- No first-time detections of PFOS, PFOS+PFHxS and/or PFOA were reported during the monitoring period
- No new exceedances of recreational use guidelines or ecological (freshwater 99%) guidelines were reported
- New maximum concentrations of PFOS, PFOS+PFHxS and/or PFOA were reported at three monitoring locations (refer to **Table 20**)
- New minimum concentrations of PFOS, PFOS+PFHxS and/or PFOA was reported in one monitoring location (refer to **Table 21**).

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

Sampling Event	Area	Location	Details
Aug 2022	Braidwood Road drain sub-catchment	SW006	PFOA (0.43 µg/L)
		SW006	PFOS+PFHxS (16.9 µg/L)
	Upper Currambene Creek sub-catchment	SW008	PFOA (0.11 µg/L)
	Yerriyong Gully sub-catchment	SW012	PFOA (0.13 µg/L)
		SW012	PFOS+PFHxS (6.4 µg/L)

Table 21 Surface Water Results – New Minimum Concentrations of PFOS, PFOS+PFHxS and/or PFOA

Sampling Event	Area	Location	Details
Feb 2022	Braidwood Road drain sub-catchment	SW007	PFOS+PFHxS (0.52 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 February 2022 sampling event is presented on **Figure F9** (**Appendix A**). A summary of groundwater elevation changes since February 2021 is provided by sub-catchment below:

- Braidwood Road: groundwater elevations in the siltstone aquifer generally increased by an average of 0.70 m.
- Flat Rock Creek: groundwater elevations in the siltstone aquifer generally increased by an average of 0.38 m.
- Cabbage Tree Creek: groundwater elevation in the siltstone aquifer generally increased by an average of 0.50 m.
- Upper Currambene Creek: groundwater elevations in the siltstone aquifer generally increased by an average of 0.63 m.
- Yerriyong Gully: groundwater elevations in the siltstone aquifer generally increased by an average of 0.74 m.

The increased groundwater elevations above the previous monitoring period is potentially attributed to the significant rainfall recorded in January 2022, prior to the February 2022 monitoring round (as discussed in **Section 6.3**).Inferred groundwater flow directions in sampling events over the last 12 months were similar to the previous monitoring event, namely towards the:

- west and north-west within the Shoalhaven River Basin; and
- east/south east within the Clyde River Basin.

Although no data was collected beyond Nowra Hill to the north-east during the monitoring period, based on the historical data and understanding of the local hydrogeology, it is anticipated that groundwater flow from Nowra Hill towards the north-east is still occurring, consistent with previous findings.

8.2 Groundwater Physicochemical Properties

The water quality parameters reported in February 2022 were generally within previous data ranges and representative of the siltstone aquifer and the perched groundwater.

8.3 Groundwater Results

8.3.1 Overview

The February 2022 groundwater results for PFOS+PFHxS and PFOA compared to assessment criteria are provided in **Figures F3** and **Figure F4** (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 concentrations changes by sub-catchment is provided below:

- **Braidwood Road**: Concentrations of PFOA, PFOS and PFOS+PFHxS within the siltstone aquifer and perched water were within the historical range, or lower (note: new minimum concentrations reported at MW044), at the locations sampled during the monitoring period
- **Cabbage Tree Creek**: Concentrations of PFOA, PFOS and PFOS+PFHxS within the siltstone aquifer were not reported at concentrations above the laboratory LOR in the locations sampled during the monitoring period

- **Flat Rock Creek**: Concentrations of PFOA, PFOS and PFOS+PFHxS within the siltstone aquifer were not reported at concentrations above the laboratory LOR in the locations sampled during the monitoring period
- **Upper Currambene Creek**: With the exception of MW005 and MW038, concentrations of PFOA, PFOS and PFOS+PFHxS within the siltstone aquifer were either below the laboratory LOR, or within the historical range, at the locations sampled during the monitoring period. New maximum concentrations were reported at MW038, located on-Site, on the south east boundary, which were reported to be close to the drinking water criteria. The concentrations at MW005, located on-Site on the south east boundary, remains higher than historical concentrations since the significant rainfall events in 2020 (refer to **Graph G7** and **Graph G8** in **Appendix C**), with concentrations of PFOS+PFHxS remaining consistent since 2020, however significantly higher than historical concentrations.
- **Yerriyong Gully**: New minimum and new maximum concentrations of PFOA, PFOS and PFOS+PFHxS within the siltstone aquifer and perched water were observed during the monitoring period. Three locations (MW006, MW009, MW009P) located on-Site south of the airstrips reported new minimum concentrations, whilst two locations MW008 (located on the eastern portion of the Site, down-gradient of an irrigation area), and MW039 (located on the southern portion of the Site, adjacent to Yerriyong Gully, down-gradient from the STP and irrigation areas) reported new maximum concentrations. The new maximum concentration of PFOA at MW008 also constituted a new exceedance of drinking water criteria, and the new maximum concentration of PFOS+PFHxS is potentially attributed to the silt build up in the well, the impact of these on the CSM is discussed further in **Section 9.0**.

The highest PFAS concentrations in groundwater during the monitoring period were reported within the Yerriyong Gully sub-catchment, in on-Site monitoring locations, with location MW009P (within perched water) reporting the highest concentrations. Note that the highest PFAS concentrations within the siltstone aquifer were reported at MW008, at concentrations an order of magnitude lower than those in perched water.

The impacts at MW009 / MW009P are associated with the FFTA, the former AFFF exercise area within the Shoalhaven Basin, while the impacts at MW008 are associated with the current STP within the Clyde River Basin. These impacts are consistent with the previous findings. Concentrations of PFAS compounds within this catchment have increased for PFOA, PFOS and PFOS+PFHxS at MW008, with new maximum concentrations reported.

The extent of PFAS impacts in groundwater are generally consistent with that reported in the 2021 AIR (AECOM, 2023), with the exception of localised increases in PFAS concentrations at on-Site monitoring location MW008 in the vicinity of the former AFFF exercise area, and the current STP which is within the Yerriyong Gully sub-catchment. The PFAS concentrations reported during the monitoring period at this location were higher than previously reported.

There is potential that historic elevated rainfall in 2021 may have influenced PFAS concentrations higher in perched water and subsequently groundwater (where higher perched and groundwater elevation levels were recorded when compared to previous monitoring period), however there is no clear correlation between individual rainfall events on temporal trend graphs (refer **Appendix C**).

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 11**, in **Section 7.1.5**).

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

- a confidence factor over 95% indicates that there is an increasing or decreasing trend
- a confidence factor over 90% indicates the there is a ‘probably increasing’ or ‘probably decreasing’ trend

- a confidence factor less than 90% indicates 'Stable' or 'No Change'.

Trend analysis was only undertaken for 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 FFTA – Trend Graphs

The FFTA source area is located in the Calymea Creek Catchment, within the Shoalhaven River Basin.

The concentrations in PFOS+PFHxS and PFOA in groundwater in the vicinity of the FFTA appear to be generally stable, although reporting the highest concentrations of PFAS on the Site, with only PFOA at one location presenting a probably increasing trend (MW009).

Refer to **Graph G1** and **Graph G2** and the relevant Mann Kendall analysis in **Appendix C**, and **Table 22** below.

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.

Table 22 Summary of Trend Analysis: FFTA

Location ID	Analyte	Historical Range	Current Monitoring Period (µg/L)	Mann-Kendall Trend	
		Min – Max (µg/L)		Trend	Confidence Factor
MW009	PFOS+PFHxS	0.89 – 58.0	1.99	No Trend	76.2%
	PFOA	0.03 – 2.74	0.08	Probably Increasing	92.2%
MW009P	PFOS+PFHxS	310 - 616	400	Stable	76.2%
	PFOA	9 – 23.1	8.63	Stable	72.9%
MW045	PFOS+PFHxS	*0.13 – 0.3*	*0.15*	*Stable*	*70.3%*
	PFOA	<LOR	<LOR	Not assessed	
MW046	PFOS+PFHxS	*0.06 – 0.21*	*0.12*	*Stable*	*40.8%*
	PFOA	<LOR	<LOR	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.

8.4.2 Former AFFF exercise area and STP – Trend Graphs

The Former AFFF exercise area and STP are located in the Yerriyong Gully Catchment, within the Clyde River Basin, flowing south to southeast towards Currambene Creek and Jervis Bay.

The changes in PFOS+PFHxS and PFOA concentrations in wells in the area of the former AFFF exercise area and STP show a decreasing trend at MW006 down hydraulic gradient of the STP, and probably increasing trend at MW008 down hydraulic gradient of the AFFF exercise areas, up hydraulic gradient of the STP.

It is noted that concentrations of PFOS+PFHxS in MW008 increased significantly from the previous monitoring period (refer **Graph G3** and **Graph G4** in **Appendix C**). The trends observed at MW008 are likely to be attributed to the elevated rainfall experienced for individual monitoring events (presented as the 30-day average daily rainfall line on the graphs). Although rainfall had not been recorded during the

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

current monitoring event, the average daily rainfall was around 5 mm a day for three months prior to the February 2022 sampling event. This prolonged period of above average rainfall may have contributed to the elevated PFAS concentrations detected at this location during the monitoring period.

Refer to **Graph G3** and **Graph G4** and the relevant Mann Kendall analysis (in **Appendix C**), and **Table** 23 below.

Table 23 Summary of Trend Analysis: Former AFFF exercise area and current STP

Location ID	Analyte	Historical Range	Current Monitoring Period (µg/L)	Mann-Kendall Trend	
		Min – Max (µg/L)		Trend	Confidence Factor
MW006	PFOS+PFHxS	13.1 – 22.6	7.41	Decreasing	99.0%
	PFOA	*0.1 – 0.36*	*0.12*	*Stable*	*80.9%*
MW008	PFOS+PFHxS	7 – 24.5	37.0	Probably Increasing	94.6%
	PFOA	*0.2 – 0.52*	*0.83*	*No Trend*	*88.7%*

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

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

8.4.3 STP Irrigation Area – Trend Graphs

The STP irrigation area is located on the southern portion of the Site, on the ridgeline.

The changes in PFOS+PFHxS and PFOA concentrations in wells in the STP irrigation area show an increasing trend at MW017, which is located down gradient and along the inferred groundwater flow path from the FFTA. It is likely that a combination of infiltration and migration are contributing to the increase in PFAS concentrations in this area. Whereas PFOS+PFHxS concentrations at MW016 increased in August 2020 but decreased to below LOR in February 2021 (concentrations of PFOA have been below LOR).

Note that PFOS+PFHxS and PFOA concentrations in MW017 increased following rainfall events in 2020 and have since decreased.

Furthermore, the February 2022 sampling event was completed prior to most of the rainfall being received for this monitoring period, and given the above average rainfall received during the current monitoring period (as discussed in **Section 6.3**), continued monitoring of this area will confirm if this seasonal variation following significant rainfall will continue to be observed.

The STP is known to receive PFAS through stormwater and waste inflows from the Site, and contributes to the PFAS leaving the Site through overland flows and irrigation.

Refer to temporal trend **Graph G5** and **Graph G6** in **Appendix C** and the relevant Mann Kendall analysis (in **Appendix C**), and **Table 24** below.

Table 24 Summary of Trend Analysis: STP irrigation area

Location ID	Analyte	Historical Range	Current Monitoring Period (µg/L)	Mann-Kendall Trend	
		Min – Max (µg/L)		Trend	Confidence Factor
MW016	PFOS+PFHxS	*<LOR – 0.09*	*<LOR*	Not assessed	
	PFOA	<LOR	<LOR	Not assessed	
MW017	PFOS+PFHxS	<LOR - 11.7	9.56	Increasing	99.3%
	PFOA	*<LOR – 0.34*	*0.14*	*Increasing*	*96.9%*

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

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

8.4.4 Eastern Site Boundary – Trend Graphs

The eastern site boundary area is located in the Currambene Creek Catchment, within the Clyde River Basin, flowing south to southeast towards Jervis Bay.

The changes in PFOS+PFHxS and PFOA concentrations in wells in the vicinity of the eastern Site boundary show an increasing trend at MW005, and a potentially increasing trend at MW029, whilst the trend analysis for the remaining locations is inconclusive or of low reliability due to low concentrations (i.e., near LOR). PFOS+PFHxS and PFOA concentrations at all locations remained lower than historic maximums in this area.

Refer to **Graph G7** and **Graph G8** and the relevant Mann Kendall analysis (in in **Appendix C)**, and **Table 25** below.

As with the irrigation area discussed in **Section 8.4.3**, it is observed that the concentrations were reported to increase following increased rainfall in 2020, therefore potentially attributed to the significant rain events. Similarly, the ongoing monitoring of these locations will confirm if potential seasonal variation following significant rainfall will continue to be observed.

Table 25 Summary of Trend Analysis: Vicinity of eastern site boundary

Location ID	Analyte	Historical Range	Current Monitoring Period (µg/L)	Mann-Kendall Trend	
		Min – Max (µg/L)		Trend	Confidence Factor
MW001	PFOS+PFHxS	*<LOR – 0.08*	*<LOR*	Not assessed	
	PFOA	<LOR	<LOR	Not assessed	
MW002	PFOS+PFHxS	*<LOR – 0.12*	*0.01*	*No Trend*	*68.3%*
	PFOA	<LOR	<LOR	Not assessed	
MW003	PFOS+PFHxS	*<LOR – 0.02*	*0.02*	Not assessed	
	PFOA	<LOR	<LOR	Not assessed	
MW005	PFOS+PFHxS	4.8 – 32.8	31.7	Increasing	99.3%
	PFOA	*0.28 – 0.68*	*0.60*	*Increasing*	*97.7%*
MW029	PFOS+PFHxS	1.08 – 21.6	15.8	Probably Increasing	91.1%
	PFOA	*0.08 – 0.50*	*0.42*	*Increasing*	*97.7%*

Note: Only one result is reported in the Min-Max Range where the values are the same.
Italics indicate low confidence in the Mann-Kendal trend analysis given concentrations are within 1 to 2 orders of magnitude of the LOR.

8.4.5 Off-Site Locations (Northwest and Southeast of the Site)

The off-Site locations covered by this grouping are MW024, MW072, and MW073 located in the northwest, flowing to the Shoalhaven River Basin, and MW026 located in the southeast, flowing to the Clyde River Basin. Note that monitoring wells MW072 and MW073 were excluded from the Mann Kendall analysis due to limited historic PFAS detections.

The changes in PFOS+PFHxS and PFOA concentrations in MW024 and MW026 show a probably decreasing trend for PFOS+PFHxS at MW026. No trend was shown for all other assessments. PFOS+PFHxS and PFOA concentrations at all locations remained lower than historic maximums for these off-Site locations.

Refer to **Graph G9** and **Graph G10** and the relevant Mann Kendall analysis (in in **Appendix C)**, and **Table 26** below.

It is again observed that the concentrations were reported to increase following increased rainfall in 2020, therefore the increase is potentially attributed to the significant rain events. Similarly, the ongoing monitoring of these locations will confirm if potential seasonal variation following significant rainfall will continue to be observed. It is noted that MW072 and MW073 have remained at or near LOR since 2020.

Table 26 Summary of Trend Analysis: Off-Site Locations (Northwest and Southeast of the Site)

Location ID	Analyte	Historical Range	Current Monitoring Period (µg/L)	Mann-Kendall Trend	
		Min – Max (µg/L)		Trend	Confidence Factor
MW024	PFOS+PFHxS	*<LOR – 1.62*	*0.05*	*No Trend*	*50.0%*
	PFOA	<LOR – *0.03*	*<LOR*	No Trend	59.4%
MW026	PFOS+PFHxS	*2.93 – 5.80*	*3.75*	*Probably Decreasing*	*91.1%*
	PFOA	*0.08 – 0.14*	*0.09*	No Trend	50.0%
MW072	PFOS+PFHxS	*<LOR*	*<LOR – 0.13*	Not assessed	
	PFOA	*<LOR*	*<LOR*	Not assessed	
MW073	PFOS+PFHxS	*<LOR*	*<LOR*	Not assessed	
	PFOA	*<LOR*	*<LOR*	Not assessed	

8.5 Surface Water Results

The February 2022 and August 2022 results for PFOS+PFHxS and PFOA, compared to screening criteria are provided in **Figure F5** to **Figure F8** (in **Appendix A**).

During the monitoring period, no first-time detections or new exceedances of human health or ecological guidelines were reported in the surface water samples. A summary of surface water concentrations changes by sub-catchment is provided below:

- **Braidwood Road**: Located northwest of the ridgeline, and downgradient from on-Site irrigation areas. With the exception of location SW006, concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from within the Braidwood Road drain sub-catchment were either less than the laboratory LOR, or within the historical range of data, during the monitoring period. In SW006 (north of the Site, within the Management Area, down-gradient of STP irrigation areas), new maximum concentrations were reported for PFOA (0.43 µg/L) and PFOS+PFHxS (16.9 µg/L) in August 2022. Note that these new maximums represent a return in concentrations to within the same order of magnitude as the previous maximum concentrations (observed in February 2021 following the period of elevated rainfall)
- **Cabbage Tree Creek**: Located outside the Management Area, to the north of the Site. Concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from within the Cabbage Tree Creek sub-catchment were either less than the laboratory LOR, or within the historical range of data, during the monitoring period
- **Calymea Creek**: Located off-Site on the northwest boundary of the Management Area. Concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from Calymea Creek were either less than the laboratory LOR, or within the historical range of data, during the monitoring period
- **Flat Rock Creek**: Located north of the Site within the Management Area. Concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from within the Flat Rock Creek sub-catchment were either less than the laboratory LOR, or within the historical range of data, during the monitoring period
- **Parma Creek**: Located off-Site, on the southeast boundary of the Management Area. Concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from the Parma Creek sub-catchment were either less than the laboratory LOR, or within the historical range of data, during the monitoring period

- **Yerriyong Gully**: Located on-Site, down gradient from the STP primary source area. With the exception of location SW012, concentrations of PFOA, PFOS and PFOS+PFHxS in the samples collected from within the Yerriyong Gully sub-catchment were either less than the laboratory LOR, or within the historical range of data, during the monitoring period. In SW012 (located on the southeast Site boundary, within Currambene Creek), concentrations of PFOA and PFOS+PFHxS increased above previous maximums reported in 2016 and 2017, however remain within an order of magnitude of these historical maximums.
- **Upper Currambene Creek**: Located east of the Site within the Management Area, and limited to location SW008. PFOA increased marginally above the historic maximum (the concentration increased to 0.11 µg/L from 0.10 µg/L), however remains within an order of magnitude of the LOR.

The PFAS concentrations in surface water remain consistent with the previous monitoring period, with the highest PFAS concentrations reported in the same four locations (SW005, SW006, SW009, SW018). Given that SW018 is located topographically upgradient of SW006 and SW005 (all of which are northwest of the ridgeline, flowing to Calymea Creek), surface water from SW018 flow towards these locations.

Historically, the concentrations of PFAS at SW009 have fluctuated (refer to **Graph G11** and **Graph G12** in **Appendix C**) and are likely to be attributed to the STP dam, given the proximity ofSW009 to the known source area (within the Yerriyong sub-catchment).

It is noted that PFAS concentrations in surface water are dependent on the conditions at the time of sampling (such as flow rate).

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 G16** (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.

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 area of interest within the following sub-sections.

8.6.1 Temporal Trend - On-Site

PFOS+PFHxS and PFOA concentrations at the on-Site locations that were assessed, have been historically observed to be highly variable. The concentrations reported during the current monitoring period are within historic ranges.

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

8.6.2 Temporal Trend - Site boundary condition

PFOS+PFHxS and PFOA concentrations at Site boundary locations that were assessed, have been historically observed to be highly variable.

PFOS+PFHxS and PFOA concentrations in SW006 on the northwest Site boundary (Braidwood Road sub-catchment), and SW008 and SW012 on the southeast Site boundary (Currambene Creek and Yerriyong Gully sub-catchment) have increased since the previous monitoring period (2021 AIR (AECOM, 2023)), whilst concentrations at SW020 have remained relatively stable.

It is likely that the heavy rainfall in March 2022 may have influenced the increase in concentrations at SW006, SW008 and SW012. The increased rainfall promotes additional flushing from source areas which contribute to the increase in PFAS concentrations in areas away from source areas. This interaction typically presents concentration peaks following elevated rainfall and anticipated to reduce during prolonged base flow.

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

8.6.3 Temporal Trend – Off-Site Management Area

PFOS+PFHxS and PFOA concentrations at the off-Site Management Area locations that were assessed, have been observed to be generally stable since 2020, and the concentrations reported during the monitoring period were within historic ranges.

The following observations are of note:

- The highest concentrations were reported at SW005 to the north west of the Site (Braidwood Road sub-catchment, receiving water body: Shoalhaven River), and at SW013 to the south east of the Site (Upper Currambene Creek sub-catchment, receiving water body: Currambene Creek)
- Concentrations at SW013 have remained consistent for the previous four sampling events
- Concentrations at SW005 have fluctuated but remain within historic ranges. SW005 is noted to be down gradient southwest from SW006 on the north western Site boundary (Braidwood Road sub-catchment).

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

9.0 Conceptual Site Model

The CSM was developed during the investigation stages (Aurecon, 2017) and summarised in the OMP (Appendix F of PMAP [Defence, 2019]). The CSM summarises the linkages between PFAS sources, exposure pathways and receptors.

The OMP monitoring over the monitoring period has provided additional data to further understand the changing conditions of the PFAS concentrations in groundwater and surface water. PFAS concentrations were within historical ranges and Mann Kendall trend analysis indicated stable, decreasing or inconclusive trends. The following new maximums or increasing trends in PFAS concentrations were noted during this monitoring period:

- New maximum concentrations (and a new exceedance of drinking water criteria) reported in groundwater (MW008) in the vicinity of the former AFFF exercise areas and (existing PFAS source area within PMAP) and an increasing trend from Mann Kendall analysis. This increase is at a location adjacent to known on-Site source areas, and does not constitute a change to the risk profile or the CSM, as the groundwater in this area is not used for drinking water
- New maximum concentration reported in groundwater (MW005) on the south east Site boundary, with Mann Kendall analysis confirming an increasing concentration trend for PFOS+PFHxS. Concentrations at this location have been increasing since the prolonged period of rainfall recorded in 2020. Given that the concentrations remain within the same order of magnitude of historical data and the location has historically exceeded relevant criteria, there is no change to the risk profile and the CSM
- PFAS concentrations in groundwater at MW017 within the STP irrigation area has increased from the previous monitoring period (2021 AIR (AECOM, 2023)), with Mann Kendall analysis confirming an increasing concentration trend. Given that the concentrations during the monitoring period were lower than the 2020 AIR (AECOM, 2021) monitoring period, there is no change to the CSM
- Generally, concentrations of PFAS within surface water remain consistent with previous monitoring, with new maximum concentrations limited in magnitude compared with historic observations. Therefore, no change to the CSM.

Despite these increases, the PFAS transport mechanisms and the groundwater and surface water concentrations are generally similar to that reported in Aurecon (2017) and 2021 AIR (AECOM, 2023).

PFAS remedial and management activities, are in the planning phase, as summarised in **Section 6.0**. Future monitoring will inform the nature and extent to which the planned remedial activities address the PFAS concentrations in groundwater and/or surface water at the Site.

Overall, data presented in this report indicates that the PFAS primary and secondary 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 December 2021 and November 2022 indicates that the risk profile to human health receptors within the Management Area remains generally unchanged since the publication of the HHERA (EnRisks, 2017) and HHERA Addendum (EnRisks, 2018). This is based on the following assessment of the OMP data:

Groundwater

- The PFAS impacts in groundwater are generally similar to historical results with the following notable exceptions:
  - Increases in on-Site PFAS (namely PFOA and PFOS+PFHxS in MW008) in the vicinity of the former AFFF exercise areas associated with the FFTA, with new maximum concentrations outside historical range and an exceedance of human health criteria. Given this exceedance is adjacent to a known source area, and the groundwater in this area is not used for drinking water, the exceedance does not constitute a change to the risk profile or the CSM
  - Increases in PFAS concentrations (at MW005) on-Site on the south east boundary. The concentrations increased in 2020, following the prolonged period of rainfall recorded in 2020, and the concentrations have remained consistent since 2020. Given that the location historically exceeded relevant exposure criteria, and there are no complete pathways of exposure for groundwater (refer to HHRA, [EnRisks, 2017]), there is no change to the risk profile.

Surface Water

- PFAS concentrations at surface water locations were generally similar to historical results with the new maximum concentrations limited in magnitude 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 HMAS Albatross and Management Area, 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, 2022a) and to meet the objectives of the OMP (Appendix F PMAP [Defence, 2019]) between December 2021 and November 2022.

Overall, the concentrations of PFAS in groundwater were generally similar to previous results, with the highest PFAS concentrations in February 2022 being reported at monitoring wells located within and/or down-gradient of primary and secondary PFAS source areas identified during the previous investigations.

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

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

Based on the data, AECOM considers that the conclusions made in the HHERA (EnRisks, 2017) and HHERA Addendum (EnRisks, 2018) still apply and that the CSM and interpretive analysis supports the known risk profile as presented in the PMAP (Defence, 2019).

Additionally, it is noted that the potential PFAS exposure to off-Site land users within the off-Site Management Area has been assessed in the HHERA/HHERA Addendum.

AECOM notes that the data collected during the monitoring period is 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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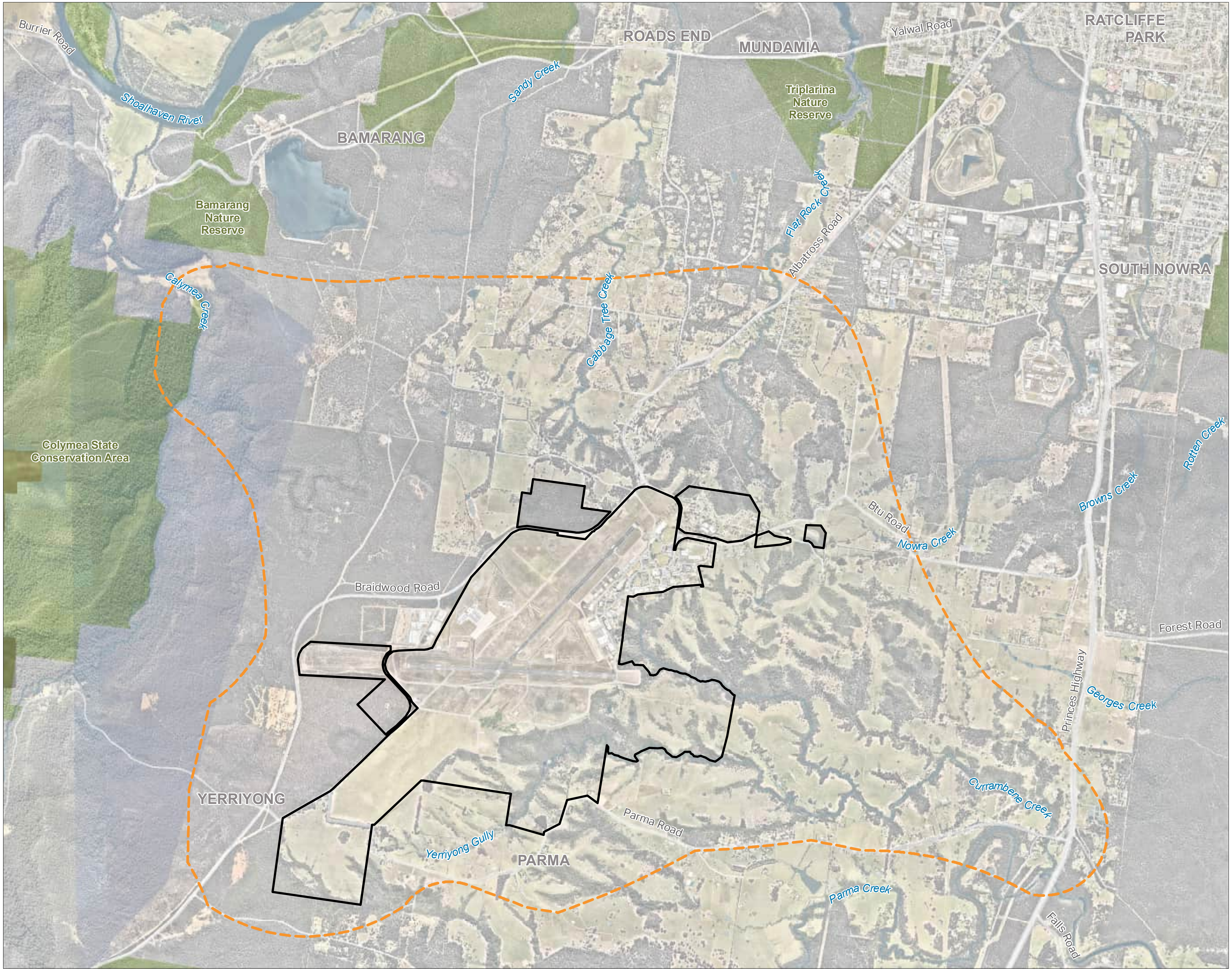
Appendix A

Figures



AECOM

Legend

- Site Boundary
- Management Area

FIGURE F1:
SITE LAYOUT

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:

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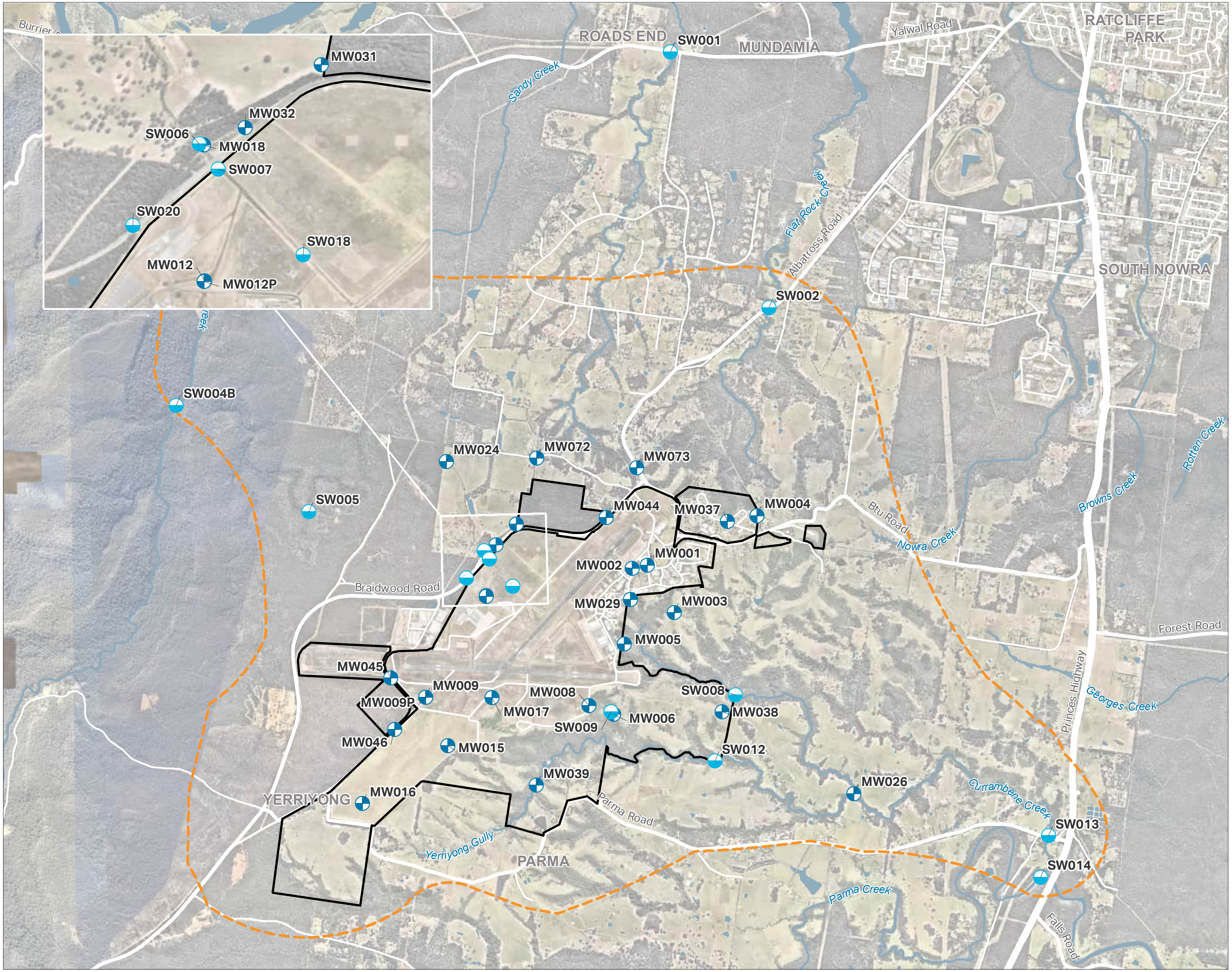

AECOM

Legend

- Site Boundary
- Management Area
- Groundwater Sampling Location
- Surface Water Sampling Location

FIGURE F2:
SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report December 2021 – November 2022 HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:

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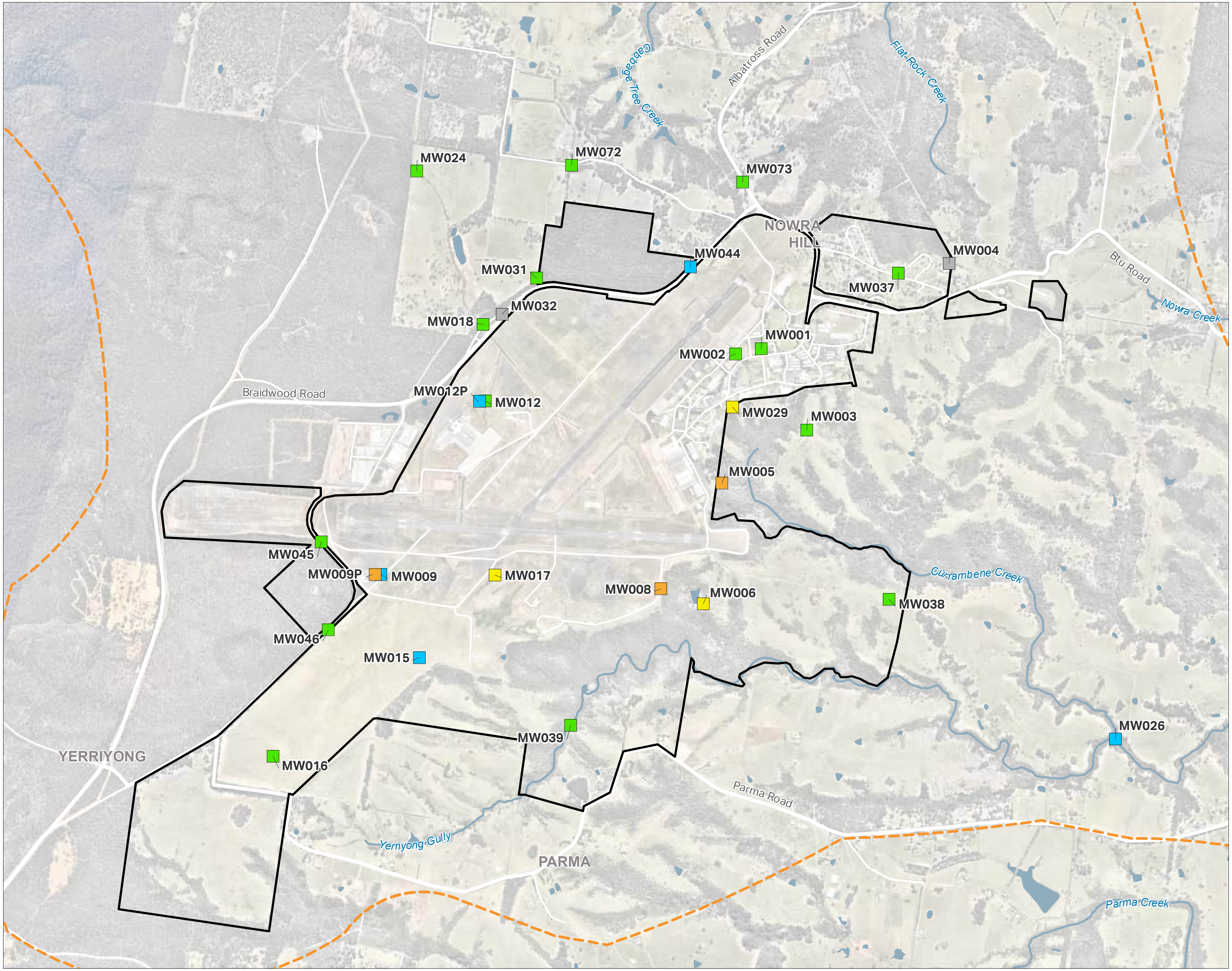

AECOM

m
0 250 500

Legend

Site Boundary

Management 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

FIGURE F3: GROUNDWATER RESULTS - PFOA (FEBRUARY 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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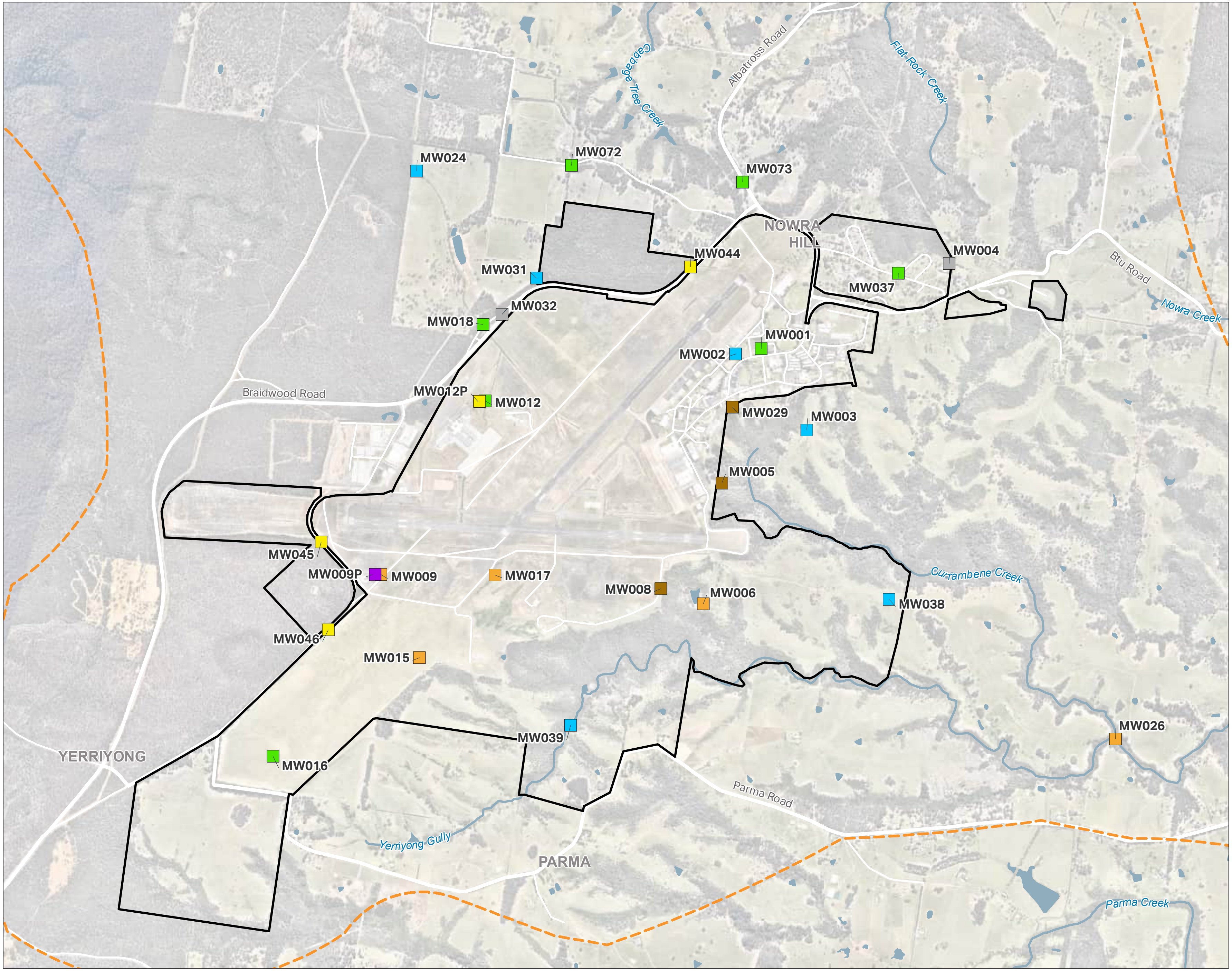

AECOM

N

m
0 250 500

Legend

Site Boundary

Management 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

FIGURE F4:
GROUNDWATER RESULTS - PFOS +PFHxS (FEBRUARY 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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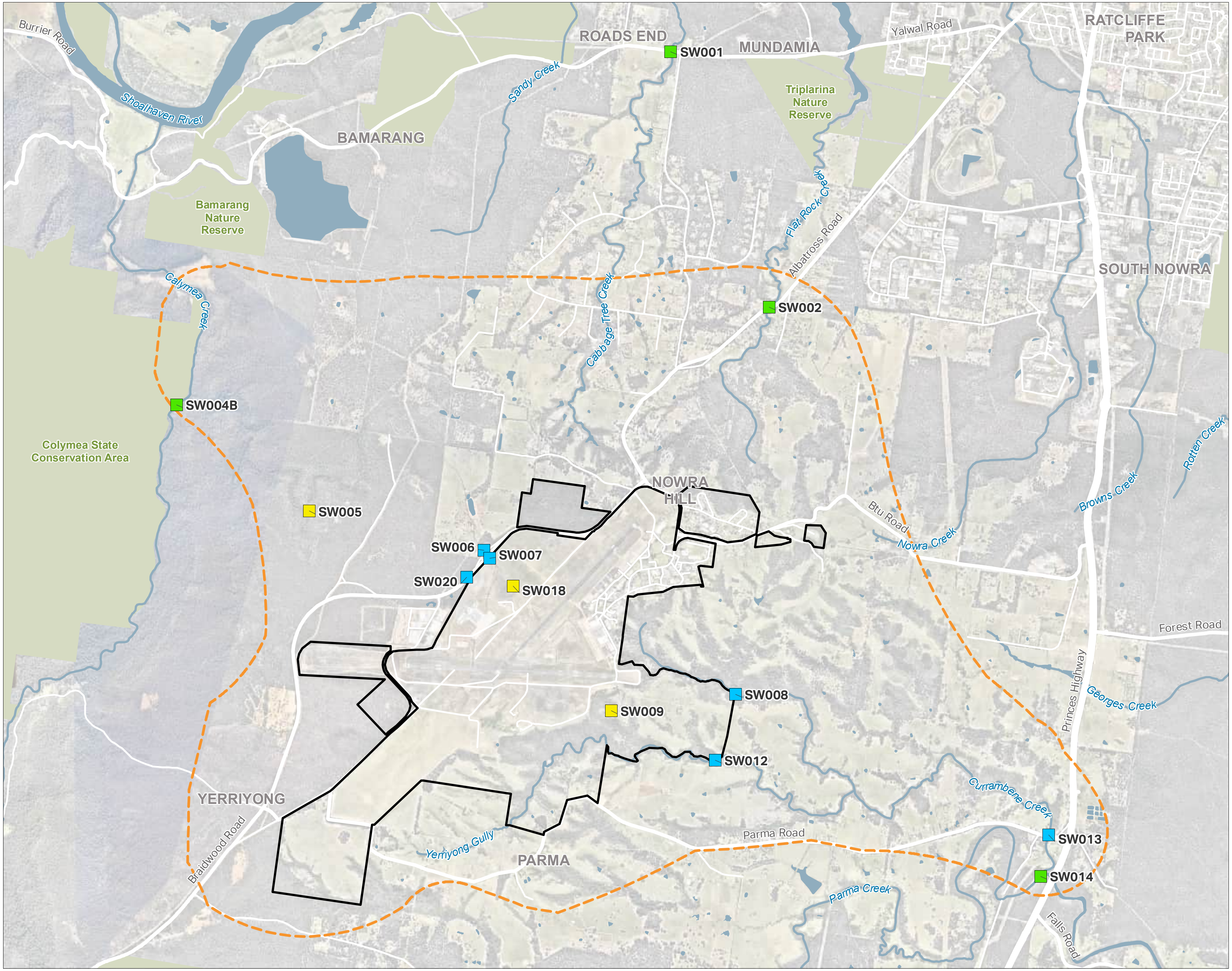

AECOM

0 500 1,000 m

Legend

Site Boundary

Management 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 F5:
SURFACE WATER RESULTS - PFOA (FEBRUARY 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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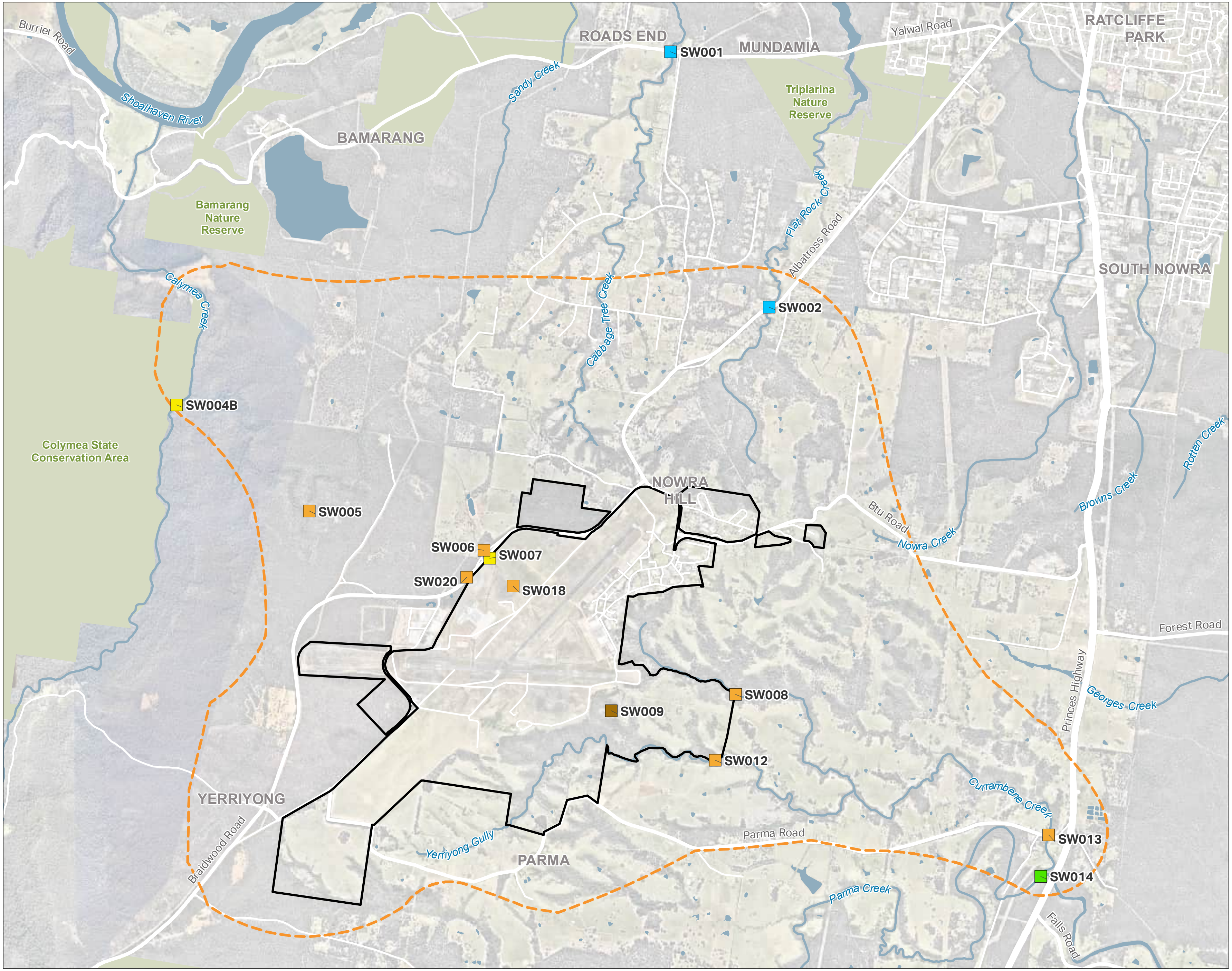

AECOM

m
0 500 1,000

Legend

Site Boundary

Management 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 F6:
SURFACE WATER RESULTS - PFOS + PFHxS (FEBRUARY 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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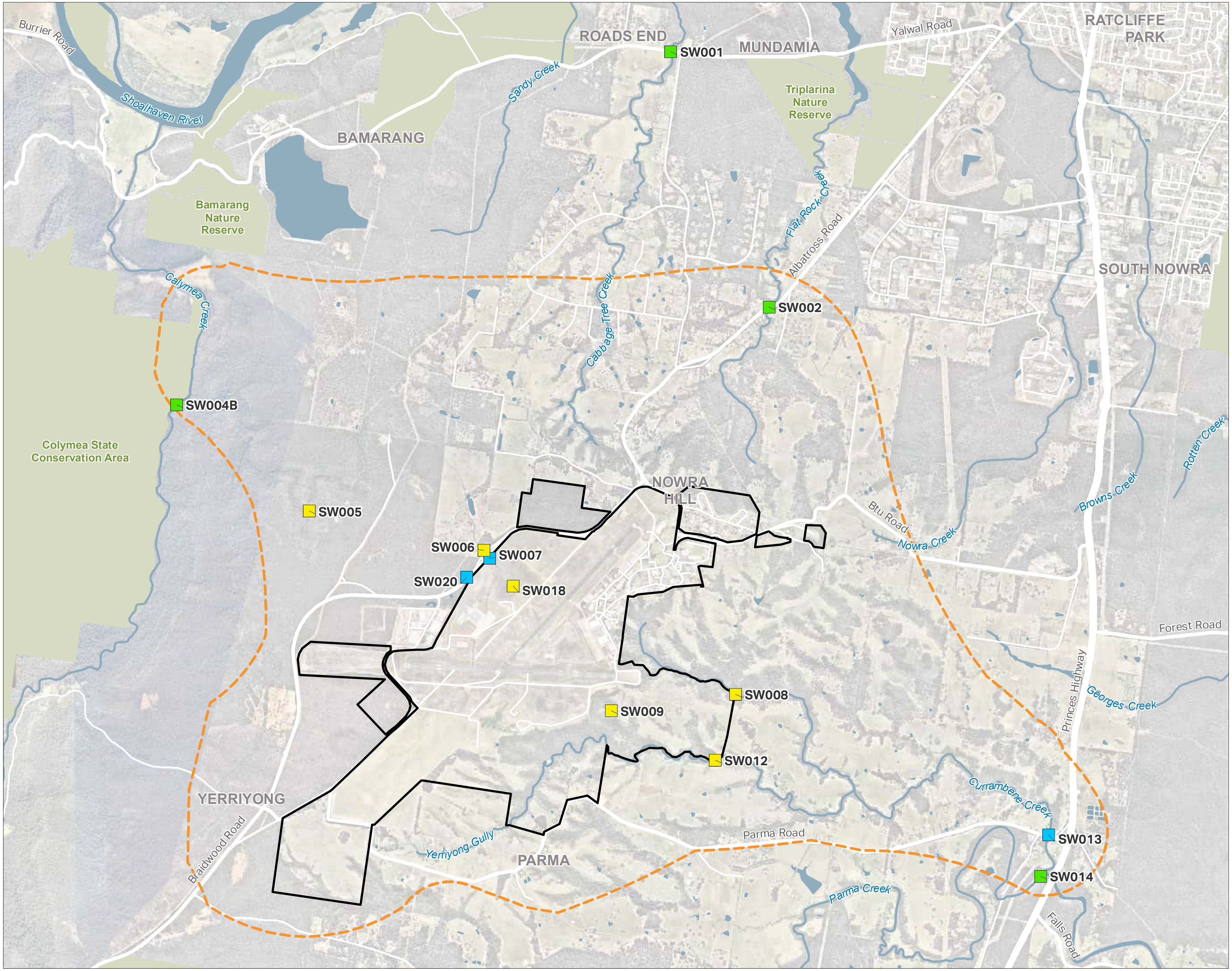

AECOM

N

0 500 1,000 m

Legend

Site Boundary

Management 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 F7:
SURFACE WATER RESULTS - PFOA (AUGUST 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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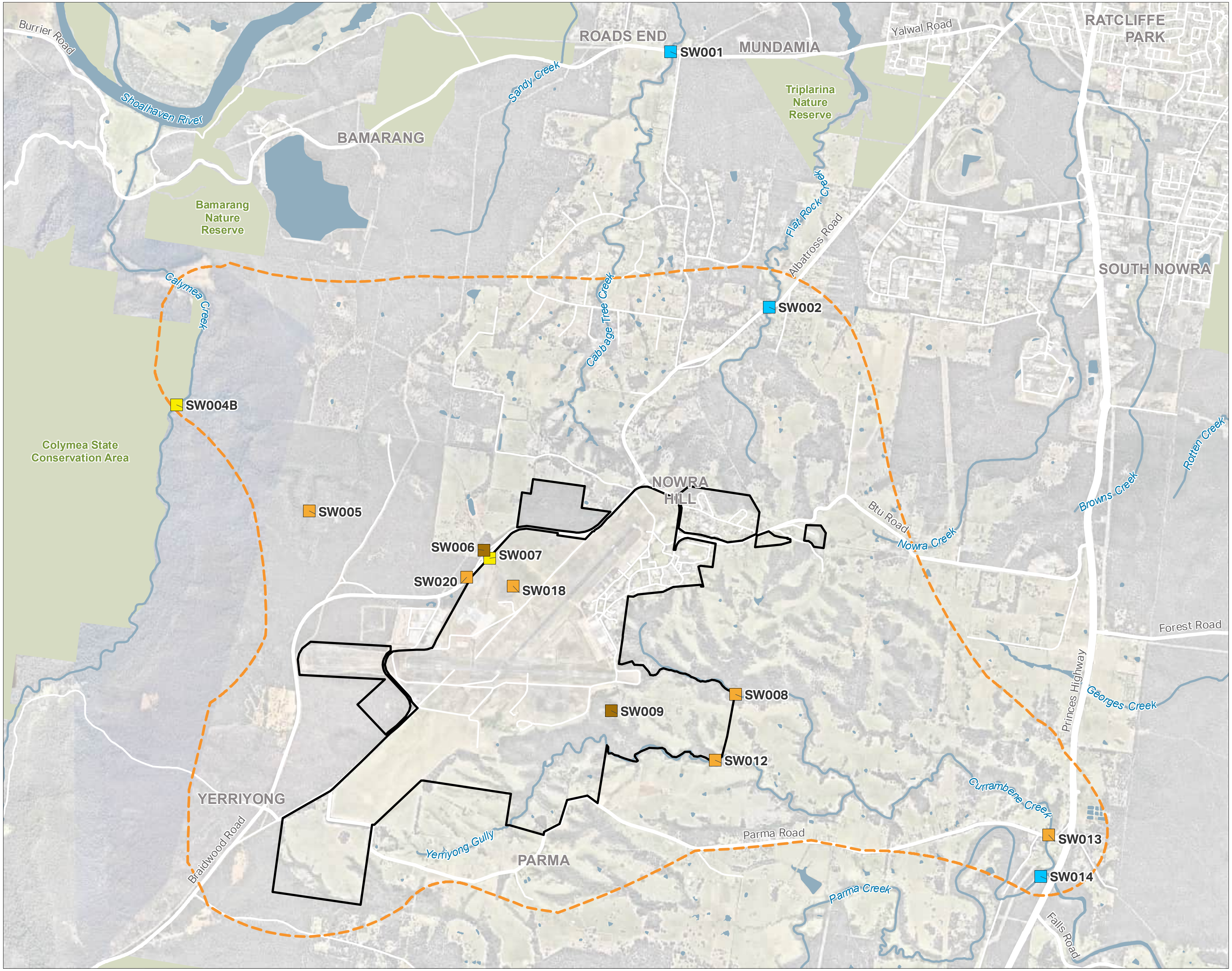

AECOM

m
0 500 1,000

Legend

Site Boundary

Management 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 F8:
SURFACE WATER RESULTS - PFOS + PFHxS (AUGUST 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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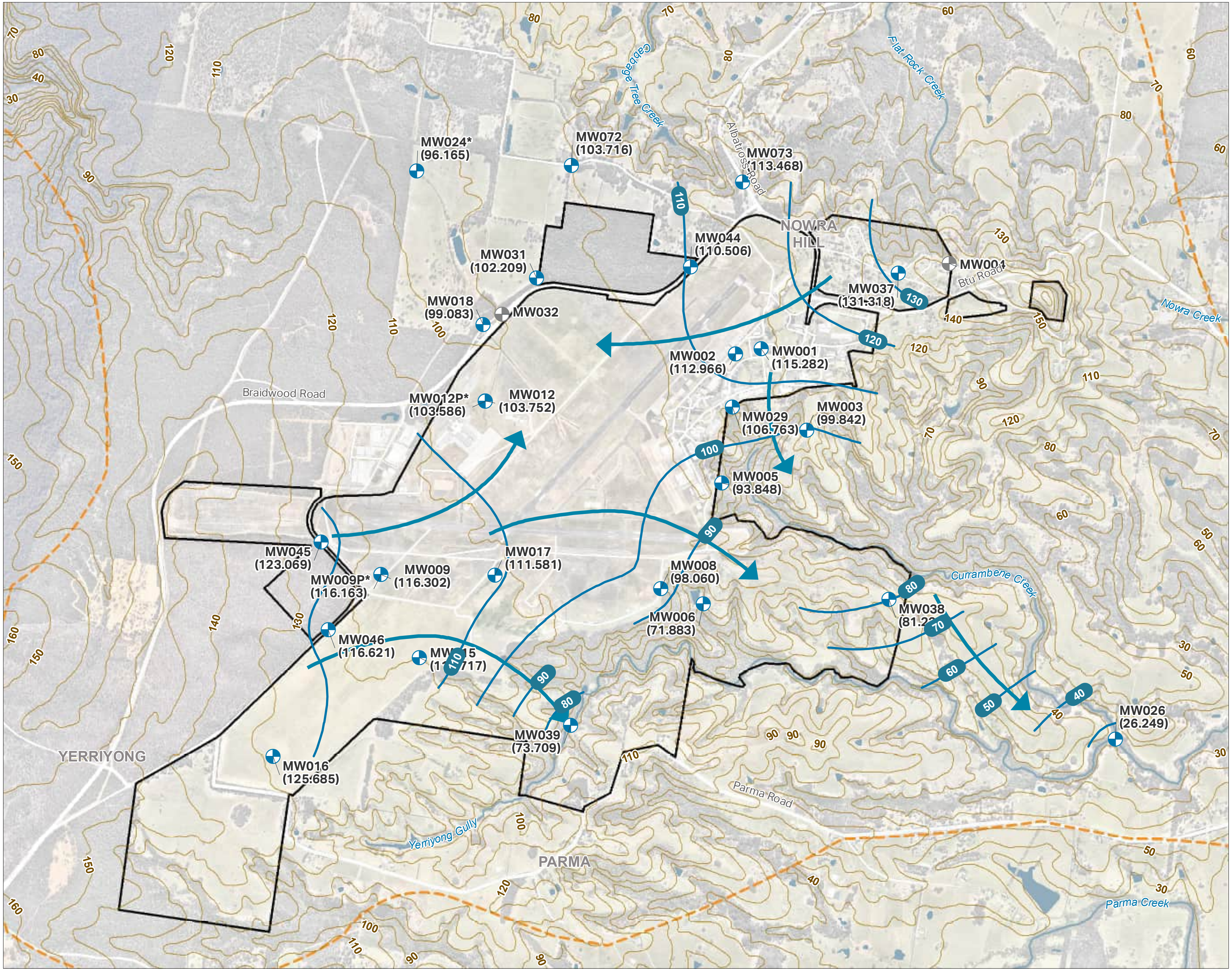


AECOM

0 250 500 m

Legend

- Site Boundary
- Management Area
- Inferred Groundwater Flow Direction
- Groundwater Contour (mAHD)
- 10m Contour
- Groundwater Sampling Location (mAHD)
- Location Not Gauged

(*) Groundwater elevation data excluded from contouring

FIGURE F9:
GROUNDWATER ELEVATION PLAN (FEBRUARY 2022)

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report
December 2021 – November 2022
HMAS Albatross (0026)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

Appendix B

Tables

Location Code	Alternative Name	Sub-Catchment	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
MW001	BH01	Braidwood Road Drain	116.622	6	9	8	9/02/2022 13:40	1.340	115.282	9.99	Good condition.
MW002	BH02	Braidwood Road Drain	114.335	6	9	8	8/02/2022 10:18	1.369	112.966	9.65	Good condition. Sediment on probe.
MW003	BH03	Upper-Currambene Creek	112.337	15	20	19	8/02/2022 8:45	12.495	99.842	21.97	Good condition.
MW004	BH04	Flat Rock Creek	144.135	5.5	8.5	n/a	8/02/2022 9:15	n/a	n/a	n/a	Not found, likely buried.
MW005	BH05	Upper-Currambene Creek	99.114	5.5	8.5	7.5	10/02/2022 12:19	5.266	93.848	10.51	Good condition.
MW006	BH06	Yerriyong Gully	77.233	4	7	6	9/02/2022 15:39	5.350	71.883	8.07	Good condition.
MW008	BH08	Yerriyong Gully	104.912	6	9	8	10/02/2022 8:28	6.852	98.060	9.50	Good condition.
MW009	BH09	Yerriyong Gully	116.632	12	15	14	10/02/2022 9:52	0.330	116.302	15.03	Good condition.
MW009P	BH09s, MW009_P	Yerriyong Gully	116.634	0.5	2.5	1.5	7/02/2022 11:26	0.471	116.163	2.43	Good condition.
MW012	BH12	Braidwood Road Drain	104.087	9	12	11	7/02/2022 11:58	0.335	103.752	12.99	Good condition.
MW012P	BH12s, MW012_P	Braidwood Road Drain	104.086	1.3	5.3	4.3	7/02/2022 11:47	0.500	103.586	5.30	Good condition.
MW015	BH15	Yerriyong Gully	119.178	8	11	10	7/02/2022 14:38	1.461	117.717	13.36	Good condition.
MW016	BH16	Yerriyong Gully	126.040	6	9	8	7/02/2022 15:02	0.355	125.685	9.88	Good condition.
MW017	BH17	Yerriyong Gully	112.476	11	14	13	7/02/2022 10:58	0.895	111.581	14.40	Good condition.
MW018	BH18	Braidwood Road Drain	100.782	9.5	12.5	11.5	9/02/2022 12:12	1.699	99.083	13.84	Good condition.
MW024	BH24	Braidwood Road Drain	97.015	6.5	9.5	8.5	9/02/2022 9:41	0.850	96.165	10.34	Good condition.
MW026	BH26	Upper-Currambene Creek	31.685	5.5	7.5	6.5	9/02/2022 11:01	5.436	26.249	8.53	Good condition.
MW029	BH29	Upper-Currambene Creek	110.154	5	7.7	6.7	8/02/2022 8:10	3.391	106.763	8.38	Good condition.
MW031	BH31	Braidwood Road Drain	103.386	3	6	5	9/02/2022 10:20	1.177	102.209	5.86	Good condition.
MW032	0026_MW32, BH32	Upper-Currambene Creek	63.742	8	11	n/a	10/02/2022 16:00	n/a	n/a	n/a	Not found, likely destroyed, only gatic lid found.
MW037	BH37	Flat Rock Creek	135.174	3.4	6.4	5.4	9/02/2022 8:09	3.856	131.318	6.16	Good condition. Sediment on probe.
MW038	BH38	Upper-Currambene Creek	86.383	5	8	7	7/02/2022 15:39	5.160	81.223	7.77	Good condition. Sediment on probe.
MW039	BH39	Yerriyong Gully	74.701	1	4	3	10/02/2022 13:38	0.992	73.709	2.43	Likely blocked or silted up. [corrected gauging comment originally reported in factual report]
MW044	BH44	Yerriyong Gully	111.923	5	7	6	9/02/2022 8:40	1.417	110.506	7.01	Good condition.
MW045	BH45	Yerriyong Gully	124.484	7	10	9	7/02/2022 13:50	1.415	123.069	9.38	Good condition. Sediment on probe.
MW046	BH46	Yerriyong Gully	122.911	5.5	8.5	7.5	7/02/2022 13:20	6.290	116.621	9.43	Good condition.
MW072	MW72	Cabbage Tree Creek	108.106	4.85	7.85	6.5	8/02/2022 11:31	4.390	103.716	7.58	Good condition.
MW073	MW73	Cabbage Tree Creek	120.919	6	11.5	10.5	8/02/2022 10:45	7.451	113.468	11.30	Good condition.

Notes

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

Table T2 - Groundwater Quality Parameters and Observations

Location Code	Date	Sub-Catchment	Monitoring Round	Sample Comments	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
MW001	09 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	2.74	24.3	7,413.0	6.43	104.1	309.9
MW002	08 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	1.57	20.3	10,172.0	6.30	96.9	302.7
MW003	08 Feb 2022	Upper-Currambene Creek	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	1.41	21.1	7,749.0	6.89	-35.0	170.8
MW005	10 Feb 2022	Upper-Currambene Creek	202202_AECOM_OMP	Light brown, medium turbidity, no odour, no sheen	1.74	19.3	447.8	6.24	71.0	276.8
MW006	09 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light grey, low turbidity, septic odour, no sheen, black organic solids at base of HydraSleeve	1.48	21.6	606.0	6.67	-19.4	186.4
MW008	10 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light brown, low turbidity, no odour, no sheen	0.60	22.8	453.3	5.86	83.6	289.4
MW009	10 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	0.27	19.6	870.0	7.20	-48.0	157.8
MW009P	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light brown, medium turbidity, sweet odour, no sheen	1.85	24.6	168.5	5.09	100.5	306.3
MW012	07 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	0.97	20.3	850.0	6.46	66.4	272.2
MW012P	07 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Light brown, low turbidity, no odour, no sheen	2.08	23.8	631.0	6.19	49.0	254.8
MW015	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light brown, low turbidity, hydrogen sulphide odour, no sheen	2.41	20.9	101.6	5.81	70.3	276.1
MW016	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light grey, low turbidity, no odour, no sheen, grey suspended particulates	1.59	20.0	8,516.0	5.31	120.7	326.5
MW017	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light grey, medium turbidity, no odour, no sheen	1.29	22.7	760.0	6.43	86.2	292.0
MW018	09 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	3.78	25.8	7,610.0	7.16	106.0	311.8
MW024	09 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	2.01	19.0	1,448.0	6.73	47.3	253.1
MW026	09 Feb 2022	Upper-Currambene Creek	202202_AECOM_OMP	Light brown, low turbidity, no odour, no sheen	1.63	19.6	1,184.0	6.73	24.6	230.4
MW029	08 Feb 2022	Upper-Currambene Creek	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	3.86	18.8	6,498.0	7.42	127.2	333.0
MW031	09 Feb 2022	Braidwood Road Drain	202202_AECOM_OMP	Brown, medium turbidity, no odour, no sheen	1.77	24.1	9,204.0	5.37	135.7	341.5
MW037	09 Feb 2022	Flat Rock Creek	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	1.73	18.5	3,082.0	6.57	85.5	291.3
MW038	07 Feb 2022	Upper-Currambene Creek	202202_AECOM_OMP	Light brown, no turbidity, no odour, no sheen	2.91	21.1	1,244.0	6.81	78.6	284.4
MW039	10 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Brown, medium turbidity, no odour, no sheen	2.15	23.9	1,060.0	6.38	32.3	238.1
MW044	09 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Light yellow turbidity, low turbidity, no odour, no sheen	0.88	19.2	355.7	6.80	46.2	252.0
MW045	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Clear, low turbidity, no odour, no sheen, suspended red particulates	1.37	20.4	137.0	4.60	161.8	367.6
MW046	07 Feb 2022	Yerriyong Gully	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	1.83	18.8	1,388.0	4.45	174.0	379.8
MW072	08 Feb 2022	Cabbage Tree Creek	202202_AECOM_OMP	Light grey, low turbidity, no odour, no sheen	1.60	19.6	11,433.0	6.95	48.3	254.1
MW073	08 Feb 2022	Cabbage Tree Creek	202202_AECOM_OMP	Light brown, low turbidity, no odour, no sheen	1.40	20.9	7,787.0	6.77	104.2	310.0

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)
Location Code	**Date**	**Monitoring Round**	**Sample Comments**	mg/L	°C	uS/cm	pH Units	mV	mV
SW001	08 Feb 2022	202202_AECOM_OMP	Light olive brown, low turbidity, no odour, biosheen	1.52	22.7	501.0	7.07	78.7	284.5
SW001	15 Aug 2022	202208_AECOM_OMP	Yellow, no turbiditiy, no odour, biosheen	5.20	12.1	990.0	6.63	162.9	368.7
SW002	08 Feb 2022	202202_AECOM_OMP	Light olive brown, low turbidity, no odour, biosheen, minor suspended solids	1.30	22.8	472.1	6.83	24.4	230.2
SW002	15 Aug 2022	202208_AECOM_OMP	Pale yellow, no turbiditiy, hydrogen sulphide odour, biosheen	4.57	12.4	783.0	6.39	92.6	298.4
SW004B	08 Feb 2022	202202_AECOM_OMP	Pale yellow, no turbidity, no odour, no sheen	4.60	21.6	284.5	7.18	46.9	252.7
SW004B	15 Aug 2022	202208_AECOM_OMP	Pale yellow, low turbidity, no odour, no sheen	7.85	12.7	334.5	7.09	132.5	338.3
SW005	08 Feb 2022	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	4.51	25.7	441.9	7.44	62.7	268.5
SW005	15 Aug 2022	202208_AECOM_OMP	Clear, no turbidity, no odour, no sheen	7.50	14.3	495.8	6.88	174.2	380.0
SW006	08 Feb 2022	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	5.02	22.2	438.3	7.30	92.6	298.4
SW006	15 Aug 2022	202208_AECOM_OMP	Clear, no turbiditiy, organic odour, no sheen	7.14	13.5	597.0	6.75	183.7	389.5
SW007	07 Feb 2022	202202_AECOM_OMP	Light olive brown, low turbidity, no odour, no sheen, suspended organic matter (algae)	1.75	23.3	641.0	6.83	94.0	299.8
SW007	15 Aug 2022	202208_AECOM_OMP	Dark brown, organic odour, no sheen, turbid	3.06	11.9	674.0	6.02	139.6	345.4
SW008	10 Feb 2022	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	6.50	20.8	852.0	7.73	91.6	297.4
SW008	15 Aug 2022	202208_AECOM_OMP	Clear, low turbidity, no odour, no sheen	9.62	11.7	922.0	7.25	171.9	377.7
SW009	09 Feb 2022	202202_AECOM_OMP	Light olive brown, medium turbidity, septic odour, no sheen	9.45	31.7	629.0	8.88	87.5	293.3
SW009	15 Aug 2022	202208_AECOM_OMP	Yellow brown, low turbidity, organic odour, no sheen	10.80	14.3	524.0	7.98	170.5	376.3
SW012	10 Feb 2022	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	5.83	23.6	475.2	7.91	84.2	290.0
SW012	15 Aug 2022	202208_AECOM_OMP	Clear, no turbidity, no odour, no sheen	11.65	12.3	594.0	7.47	190.9	396.7
SW013	08 Feb 2022	202202_AECOM_OMP	Light olive brown, low turbidity, no odour, no sheen	4.63	23.0	605.0	7.47	81.0	286.8
SW013	15 Aug 2022	202208_AECOM_OMP	Pale yellow, no turbidity, no odour, no sheen	7.20	12.9	782.0	7.11	189.6	395.4
SW014	08 Feb 2022	202202_AECOM_OMP	Clear, no turbidity, no odour, no sheen	5.76	23.7	247.1	7.52	71.5	277.3
SW014	15 Aug 2022	202208_AECOM_OMP	Clear, no turbidity, no odour, no sheen	7.94	13.3	269.1	6.77	195.5	401.3
SW018	07 Feb 2022	202202_AECOM_OMP	Brown, medium turbidity, no odour, no sheen	4.67	25.7	459.5	7.28	91.2	297.0
SW018	15 Aug 2022	202208_AECOM_OMP	Pale yellow, no turbidity, no odour, no sheen	9.81	12.5	970.0	4.77	104.8	310.6
SW020	08 Feb 2022	202202_AECOM_OMP	Clear, low turbidity, no odour, no sheen	6.52	21.9	439.6	8.21	35.6	241.4
SW020	15 Aug 2022	202208_AECOM_OMP	Clear, no turbidity, no odour, no sheen	11.26	12.7	296.4	6.39	154.1	359.9

Notes

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

Corrected field Redox measurement Eh = Er + 205.8

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW001	14 Oct 2016	0026_MW01_161014	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW001	15 Nov 2016	0026_MW01_161115	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW001	24 May 2017	0026_MW01_170524	Normal	NSW_0026_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
MW001	20 Jun 2017	0026_MW01_170620	Normal	NSW_0026_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
MW001	28 Feb 2020	0026_MW01_200228	Normal	NSW_0026_PFASOMP	<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
MW001	28 Feb 2020	0026_QC103_200228	Field_D	NSW_0026_PFASOMP	<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
MW001	24 Aug 2020	0026_MW001_200824	Normal	NSW_0026_PFASOMP	<0.01	*0.01*	0.03	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
MW001	08 Feb 2021	0026_MW001_210208	Normal	NSW_0026_PFASOMP	<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
MW001	09 Feb 2022	0026_MW001_220209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	14 Oct 2016	0026_MW02_161014	Normal	NSW_0026_PFAS	<0.01	*0.12*	<0.01	**0.12**	-	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW002	14 Oct 2016	0026_QC232_161014	Interlab_D	NSW_0026_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW002	15 Nov 2016	0026_MW02_161115	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW002	24 May 2017	0026_MW02_170524	Normal	NSW_0026_PFAS	<0.01	*0.04*	<0.01	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
MW002	19 Jun 2017	0026_QC237_170619	Interlab_D	NSW_0026_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
MW002	20 Jun 2017	0026_MW02_170620	Normal	NSW_0026_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
MW002	20 Jun 2017	0026_QC158_170620	Field_D	NSW_0026_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
MW002	28 Feb 2020	0026_MW02_200228	Normal	NSW_0026_PFASOMP	<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
MW002	28 Feb 2020	0026_QC203_200228	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.02	<0.01	<0.01	-	0.011	<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
MW002	24 Aug 2020	0026_MW002_200824	Normal	NSW_0026_PFASOMP	<0.01	*0.01*	<0.02	0.01	1.12	1.04	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
MW002	24 Aug 2020	0026_QC200_200824	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.01	0.01	0.01	0.15	0.1	0.02	<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
MW002	08 Feb 2021	0026_MW002_210208	Normal	NSW_0026_PFASOMP	<0.01	*0.01*	<0.02	0.01	0.35	0.32	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	08 Feb 2022	0026_MW002_220208	Normal	NSW_0026_PFASOMP	<0.01	<0.01	0.01	0.01	0.09	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
MW002	08 Feb 2022	0026_QC101_220208	Field_D	NSW_0026_PFASOMP	<0.01	<0.01	0.01	0.01	0.1	0.07	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	14 Oct 2016	0026_MW03_161014	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW003	15 Nov 2016	0026_MW03_161115	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW003	23 May 2017	0026_MW03_170523	Normal	NSW_0026_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
MW003	27 Feb 2020	0026_MW03_200227	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	25 Aug 2020	0026_MW003_200825	Normal	NSW_0026_PFASOMP	<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
MW003	25 Aug 2020	0026_QC101_200825	Field_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	08 Feb 2021	0026_MW003_210208	Normal	NSW_0026_PFASOMP	<0.01	*0.01*	<0.02	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	08 Feb 2022	0026_MW003_220208	Normal	NSW_0026_PFASOMP	<0.01	*0.01*	0.01	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
MW004	14 Oct 2016	0026_MW04_161014	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW004	15 Nov 2016	0026_MW04_161114	Normal	NSW_0026_PFAS	<0.01	*0.02*	<0.01	0.02	-	<0.01	-	-	<0.01	<0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW004	22 May 2017	0026_MW04_170522	Normal	NSW_0026_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
MW004	19 Jun 2017	0026_MW04_170619	Normal	NSW_0026_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
MW004	27 Aug 2020	0026_QC202_200827	Interlab_D	NSW_0026_PFASOMP	<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
MW004	27 Aug 2020	0026_MW004_200827	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW004	10 Feb 2021	0026_MW004_210210	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW004	10 Feb 2021	0026_QC200_210210	Interlab_D	NSW_0026_PFASOMP	<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
MW005	14 Oct 2016	0026_MW05_161014	Normal	NSW_0026_PFAS	0.3	*2*	5.1	**7.1**	-	1.5	-	-	<0.01	0.23	0.43	2	0.32	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW005	15 Nov 2016	0026_MW05_161116	Normal	NSW_0026_PFAS	0.28	*2.4*	2.4	**4.8**	-	0.89	-	-	<0.01	0.24	0.32	2	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW005	23 May 2017	0026_MW05_170523	Normal	NSW_0026_PFAS	0.43	*5.4*	6	**11.4**	-	0.96	0.63	0.17	<0.01	0.21	0.4	1.8	0.27	<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	20 Jun 2017	0026_MW05_170620	Normal	NSW_0026_PFAS	0.31	*3.9*	3.7	**7.6**	-	1	0.72	0.11	<0.01	0.21	0.39	1.9	0.23	<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	27 Feb 2020	0026_MW05_200227	Normal	NSW_0026_PFASOMP	0.31	*7.88*	5.9	**13.8**	17.6	0.72	0.78	0.24	<0.02	0.2	0.25	1.13	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
MW005	25 Aug 2020	0026_MW005_200825	Normal	NSW_0026_PFASOMP	**0.68**	*19.9*	12.9	**32.8**	40.5	1.29	1.74	0.7	<0.02	0.2	0.45	2.32	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
MW005	10 Feb 2021	0026_MW005_210210	Normal	NSW_0026_PFASOMP	0.55	*15.3*	10.2	**25.5**	32.7	1.54	1.71	0.56	<0.02	0.2	0.39	1.94	0.29	<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
MW005	10 Feb 2022	0026_MW005_220210	Normal	NSW_0026_PFASOMP	**0.6**	*20*	11.7	**31.7**	39	1.35	1.4	0.54	<0.02	0.2	0.41	2.54	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
MW006	15 Nov 2016	0026_MW06_161115	Normal	NSW_0026_PFAS	0.33	*15*	7.6	**22.6**	-	1.1	-	-	<0.01	0.18	0.3	1.7	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW006	23 May 2017	0026_MW06_170523	Normal	NSW_0026_PFAS	0.36	*15*	7.4	**22.4**	-	0.52	0.53	0.3	0.02	0.16	0.32	1.2	0.15	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
MW006	20 Jun 2017	0026_MW06_170620	Normal	NSW_0026_PFAS	<0.2	*6.8*	6.4	**13.2**	-	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW006	27 Feb 2020	0026_MW06_200227	Normal	NSW_0026_PFASOMP	0.21	*8.11*	5.1	**13.2**	15.7	0.38	0.46	0.18	<0.02	0.1	0.23	0.83	0.08	<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
MW006	26 Aug 2020	0026_MW006_200826	Normal	NSW_0026_PFASOMP	0.2	*8.46*	4.83	**13.3**	15.9	0.32	0.5	0.22	0.03	0.1	0.2	0.94	0.08	<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
MW006	08 Feb 2021	0026_MW006_210208	Normal	NSW_0026_PFASOMP	0.23	*8.54*	4.54	**13.1**	15.5	0.34	0.5	0.18	<0.02	<0.1	0.2	0.87	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
MW006	09 Feb 2022	0026_MW006_220209	Normal	NSW_0026_PFASOMP	0.12	*4.45*	2.96	**7.41**	8.94	0.23	0.27	0.15	<0.02	<0.1	0.12	0.59	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<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					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW008	13 Oct 2016	0026_MW08_161013	Normal	NSW_0026_PFAS	0.36	4	12	16	-	2	-	-	<0.01	0.22	0.55	3.1	0.34	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW008	15 Nov 2016	0026_MW08_161115	Normal	NSW_0026_PFAS	0.24	3.4	3.6	7	-	0.93	-	-	<0.01	0.16	0.27	2.2	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW008	23 May 2017	0026_MW08_170523	Normal	NSW_0026_PFAS	0.2	3.1	7.1	10.2	-	1	0.68	0.32	<0.01	0.14	0.4	2.2	0.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW008	20 Jun 2017	0026_MW08_170620	Normal	NSW_0026_PFAS	0.2	3.1	5	8.1	-	1.1	0.92	0.3	<0.01	0.13	0.36	2.3	0.2	<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
MW008	27 Feb 2020	0026_MW08_200227	Normal	NSW_0026_PFASOMP	0.27	3.07	9.88	13	20.2	1.48	1.46	0.37	<0.02	0.1	0.44	2.85	0.27	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	25 Aug 2020	0026_MW008_200825	Normal	NSW_0026_PFASOMP	0.52	4.64	19.9	24.5	38.4	2.46	3.07	0.96	<0.02	0.2	0.77	5.34	0.56	<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
MW008	11 Feb 2021	0026_MW008_210211	Normal	NSW_0026_PFASOMP	0.28	1.77	13.9	15.7	24.3	1.73	2.33	0.54	<0.02	<0.1	0.42	3.02	0.35	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	10 Feb 2022	0026_MW008_220210	Normal	NSW_0026_PFASOMP	0.83	12.7	24.3	37	54.2	3.58	3.13	1.47	<0.02	0.2	0.74	6.64	0.57	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	13 Oct 2016	0026_MW09_161013	Normal	NSW_0026_PFAS	0.05	1	0.46	1.46	-	0.08	-	-	<0.01	<0.05	0.04	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW009	15 Nov 2016	0026_MW09_161115	Normal	NSW_0026_PFAS	0.03	0.66	0.23	0.89	-	0.04	-	-	<0.01	<0.05	0.01	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW009	23 May 2017	0026_MW09_170523	Normal	NSW_0026_PFAS	0.03	1.7	0.31	2.01	-	0.03	0.03	0.03	<0.01	<0.05	0.01	0.07	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
MW009	20 Jun 2017	0026_MW09_170620	Normal	NSW_0026_PFAS	0.08	1.8	0.71	2.51	-	0.16	0.15	0.05	<0.01	0.06	0.08	0.39	0.05	<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
MW009	27 Feb 2020	0026_MW09_200227	Normal	NSW_0026_PFASOMP	1.58	18.4	19.1	37.5	74.4	7.04	6.05	1.13	0.02	1.7	2.67	15	1.65	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	26 Aug 2020	0026_MW009_200826	Normal	NSW_0026_PFASOMP	2.74	10.3	17.7	28	88.9	10.2	6.44	1.11	<0.02	2.9	5.18	29.1	3.09	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	26 Aug 2020	0026_QC102_200826	Field_D	NSW_0026_PFASOMP	2.58	9.89	16.3	26.2	82.4	9.23	5.91	1.08	<0.02	2.8	4.76	26.6	3.1	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	08 Sep 2020	0026_FFTA_MW09_080920	Normal	NSW_0026_PFASMGMT	0.42	2.3	3.1	5.4	13.99	1.1	1	0.1	<0.01	0.58	0.64	3.4	0.41	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009	08 Sep 2020	0026_QC111_080920	Field_D	NSW_0026_PFASMGMT	0.28	1.5	2.3	3.8	10.15	0.94	0.76	0.08	<0.01	0.44	0.31	2.6	0.31	<0.01	<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
MW009	08 Sep 2020	0026_QC210_080920	Field_D	NSW_0026_PFASMGMT	0.15	1	1.4	2.4	5.79	0.55	0.42	0.06	<0.01	0.2	0.25	1.4	0.15	<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
MW009	04 Nov 2020	0026_FFTA_MW09_041120	Normal	NSW_0026_PFASMGMT	0.11	1.4	1.1	2.5	4.18	0.26	0.28	0.08	<0.01	0.11	0.11	0.53	0.08	<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
MW009	11 Feb 2021	0026_MW009_210211	Normal	NSW_0026_PFASOMP	1.94	29.9	28.1	58	98.1	6.69	6.58	1.82	0.16	2	3.12	15.4	1.87	0.11	0.05	0.02	<0.02	<0.02	<0.05	<0.05	0.2	0.06	<0.05	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	10 Feb 2022	0026_MW009_220210	Normal	NSW_0026_PFASOMP	0.08	0.94	1.05	1.99	3.78	0.26	0.2	0.04	<0.02	0.2	0.18	0.74	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
MW009P	13 Oct 2016	0026_MW09_P_161013	Normal	NSW_0026_PFAS	10	300	77	377	-	10	-	-	<1.5	<7.5	8.1	31	6	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<7.5	2	-	<7.5	<7.5	-	-	<7.5	-	-
MW009P	15 Nov 2016	0026_MW09_P_161115	Normal	NSW_0026_PFAS	13	430	81	511	-	11	-	-	<0.01	5.5	8.8	46	6.6	0.91	0.48	0.02	<0.01	0.02	0.03	<0.01	1.1	2	-	<0.05	<0.05	-	-	<0.05	-	-
MW009P	15 Nov 2016	0026_QC151_161115	Field_D	NSW_0026_PFAS	13	430	87	517	-	11	-	-	<0.3	5.3	8.9	44	6.5	0.93	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<1.5	2	-	<1.5	<1.5	-	-	<1.5	-	-
MW009P	23 May 2017	0026_MW09_P_170523	Normal	NSW_0026_PFAS	15	460	110	570	-	11	10	9.9	<0.01	6.2	12	49	8.4	1.1	0.43	<0.01	<0.01	<0.01	<0.01	<0.01	2.2	2.3	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009P	20 Jun 2017	0026_MW09_P_170620	Normal	NSW_0026_PFAS	11	350	70	420	-	9	8.2	4.6	<2	4.7	10	40	6.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW009P	27 Feb 2020	0026_MW09_P_200227	Normal	NSW_0026_PFASOMP	9.79	252	57.8	310	400	7.57	10.9	7.28	0.42	4.2	7.23	34.9	4.78	0.76	0.36	0.03	<0.02	<0.02	<0.05	<0.05	0.87	1.13	<0.05	0.17	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	26 Aug 2020	0026_MW009_P_200826	Normal	NSW_0026_PFASOMP	23.1	496	120	616	827	17.5	23.2	14.7	1.31	8.2	18.1	83.8	12.5	2.21	0.74	0.02	<0.02	<0.02	<0.05	<0.05	2.44	2.77	<0.05	0.07	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	08 Sep 2020	0026_FFTA_MW09S_080920	Normal	NSW_0026_PFASMGMT	9	260	75	335	432.11	9.8	10	6	<0.01	7.6	12	23	9.3	1.6	0.35	<0.01	<0.01	<0.01	<0.01	<0.01	1.3	1.4	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009P	04 Nov 2020	0026_FFTA_MW09s_041120	Normal	NSW_0026_PFASMGMT	11	320	97	417	533.02	10	10	4.5	<0.01	6.4	9.8	45	7.6	1.5	0.58	0.21	0.19	<0.01	0.19	<0.01	1.7	1.7	<0.01	0.08	<0.05	0.29	<0.05	0.11	<0.05	<0.05
MW009P	11 Feb 2021	0026_MW009_P_210211	Normal	NSW_0026_PFASOMP	14.4	387	85.3	472	611	14.6	14.8	9.36	1.55	4.5	11.4	54.4	7.69	1.69	0.61	0.03	<0.02	<0.02	<0.05	<0.05	1.37	1.78	<0.05	0.17	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	07 Feb 2022	0026_MW009P_220207	Normal	NSW_0026_PFASOMP	8.63	333	66.8	400	495	8.47	8.22	5.08	0.38	3.6	6.97	43.2	5.64	1.14	0.79	0.03	<0.02	<0.02	<0.05	<0.05	0.92	2.1	<0.05	0.27	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	13 Oct 2016	0026_MW12_161013	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW012	15 Nov 2016	0026_MW12_161115	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW012	23 May 2017	0026_MW12_170523	Normal	NSW_0026_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
MW012	20 Jun 2017	0026_MW12_170620	Normal	NSW_0026_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
MW012	27 Feb 2020	0026_MW12_200227	Normal	NSW_0026_PFASOMP	<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
MW012	26 Aug 2020	0026_MW012_200826	Normal	NSW_0026_PFASOMP	<0.01	0.37	0.02	0.39	0.39	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	11 Feb 2021	0026_MW012_210211	Normal	NSW_0026_PFASOMP	<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
MW012	07 Feb 2022	0026_MW012_220207	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	07 Feb 2022	0026_QC100_220207	Field_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	13 Oct 2016	0026_MW12_P_161013	Normal	NSW_0026_PFAS	<0.01	0.04	0.01	0.05	-	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012P	15 Nov 2016	0026_MW12_P_161115	Normal	NSW_0026_PFAS	<0.01	0.03	<0.01	0.03	-	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012P	23 May 2017	0026_MW12_P_170523	Normal	NSW_0026_PFAS	<0.01	0.05	0.03	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
MW012P	20 Jun 2017	0026_MW12_P_170620	Normal	NSW_0026_PFAS	<0.01	0.08	0.15	0.23	-	0.01	0.02	<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
MW012P	27 Feb 2020	0026_MW12_P_200227	Normal	NSW_0026_PFASOMP	0.04	2.63	1.45	4.08	4.75	0.2	0.15	0.04	<0.02	<0.1	0.06	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	26 Aug 2020	0026_MW012_P_200826	Normal	NSW_0026_PFASOMP	0.02	0.8	0.59	1.39	1.61	0.08	0.07	<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
MW012P	11 Feb 2021	0026_MW012_P_210211	Normal	NSW_0026_PFASOMP	<0.01	0.29	0.12	0.41	0.41	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	07 Feb 2022	0026_MW012P_220207	Normal	NSW_0026_PFASOMP	0.02	0.57	0.43	1	1.23	0.07	0.05	<0.02	<0.02	<0.1	<0.02	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
MW015	13 Oct 2016	0026_MW15_161013	Normal	NSW_0026_PFAS	<0.01	<0.01	0.03	0.03	-	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW015	15 Nov 2016	0026_MW15_161116	Normal	NSW_0026_PFAS	<0.01	<0.01	0.05	0.05	-	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW015	23 May 2017	0026_MW15_170523	Normal	NSW_0026_PFAS	0.01	0.04	0.47	0.51	-	0.09	0.06	<0.01	<0.01	<0.05	0.02	0.08	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
MW015	20 Jun 2017	0026_MW15_170620	Normal	NSW_0026_PFAS	0.34	6.4	21	27.4	-	3.5	2.9	0.82	<0.01	0.1	0.23	1.8	0.25	<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
MW015	27 Feb 2020	0026_MW15_200227	Normal	NSW_0026_PFASOMP	0.34	5.06	11.1	16.2	22.9	1.23	1.28	0.7	<0.02	0.4	0.49	2.09	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

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW015	26 Aug 2020	0026_MW015_200826	Normal	NSW_0026_PFASOMP	0.07	1.29	3.94	5.23	7.11	0.54	0.57	0.17	<0.02	<0.1	0.05	0.43	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW015	11 Feb 2021	0026_MW015_210211	Normal	NSW_0026_PFASOMP	<0.01	0.06	0.07	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
MW015	07 Feb 2022	0026_MW015_220207	Normal	NSW_0026_PFASOMP	0.05	1.17	2.33	3.5	4.69	0.39	0.35	0.08	<0.02	<0.1	0.06	0.23	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
MW016	13 Oct 2016	0026_MW16_161013	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW016	15 Nov 2016	0026_MW16_161116	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW016	23 May 2017	0026_MW16_170523	Normal	NSW_0026_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
MW016	20 Jun 2017	0026_MW16_170620	Normal	NSW_0026_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
MW016	27 Feb 2020	0026_MW16_200227	Normal	NSW_0026_PFASOMP	<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
MW016	27 Feb 2020	0026_QC202_200227	Interlab_D	NSW_0026_PFASOMP	<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
MW016	26 Aug 2020	0026_MW016_200826	Normal	NSW_0026_PFASOMP	<0.01	0.09	<0.02	0.09	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW016	11 Feb 2021	0026_MW016_210211	Normal	NSW_0026_PFASOMP	<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
MW016	07 Feb 2022	0026_MW016_220207	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW016	07 Feb 2022	0026_QC200_220207	Interlab_D	NSW_0026_PFASOMP	<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
MW017	13 Oct 2016	0026_MW17_161013	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW017	15 Nov 2016	0026_MW17_161116	Normal	NSW_0026_PFAS	<0.01	0.05	0.27	0.32	-	0.04	-	-	<0.01	<0.05	0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW017	23 May 2017	0026_MW17_170523	Normal	NSW_0026_PFAS	<0.01	<0.01	0.07	0.07	-	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
MW017	20 Jun 2017	0026_MW17_170620	Normal	NSW_0026_PFAS	<0.01	0.01	0.07	0.08	-	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
MW017	27 Feb 2020	0026_MW17_200227	Normal	NSW_0026_PFASOMP	0.01	0.09	0.59	0.68	0.95	0.07	0.07	<0.02	<0.02	<0.1	0.02	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
MW017	26 Aug 2020	0026_MW017_200826	Normal	NSW_0026_PFASOMP	0.34	0.88	10.8	11.7	21.2	2.01	2.27	0.22	<0.02	0.4	0.69	3.24	0.39	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW017	11 Feb 2021	0026_MW017_210211	Normal	NSW_0026_PFASOMP	0.21	0.81	5.89	6.7	10.6	0.9	0.88	0.16	<0.02	0.1	0.21	1.19	0.23	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW017	11 Feb 2021	0026_QC102_210211	Field_D	NSW_0026_PFASOMP	0.21	0.81	5.52	6.33	10.3	0.95	0.83	0.15	<0.02	0.1	0.21	1.25	0.23	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW017	07 Feb 2022	0026_MW017_220207	Normal	NSW_0026_PFASOMP	0.14	0.82	8.74	9.56	14.6	1.18	1.47	0.12	<0.02	0.2	0.28	1.5	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	14 Nov 2016	0026_QC147_161114	Field_D	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW018	14 Nov 2016	0026_QC148_161114	Field_D	NSW_0026_PFAS	<0.01	0.13	<0.01	0.13	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW018	15 Nov 2016	0026_MW18_161114	Normal	NSW_0026_PFAS	<0.01	0.02	<0.01	0.02	-	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW018	13 Dec 2016	0026_MW18_161213	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW018	13 Dec 2016	0026_QC153_161213	Field_D	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW018	13 Dec 2016	0026_QC233_161213	Field_D	NSW_0026_PFAS	<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	-	<0.05	-	<0.05	-	-	<0.05	-
MW018	08 Feb 2017	0026_MW18_161114	Normal	NSW_0026_PFAS	0.11	3.3	1.7	5	-	0.24	-	-	<0.01	0.07	0.05	0.47	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
MW018	22 May 2017	0026_MW18_170522	Normal	NSW_0026_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
MW018	19 Jun 2017	0026_MW18_170619	Normal	NSW_0026_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
MW018	19 Jun 2017	0026_QC157_170619	Field_D	NSW_0026_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
MW018	20 Jun 2017	0026_QC238_170620	Interlab_D	NSW_0026_PFAS	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	26 Feb 2020	0026_MW18_200226	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	24 Aug 2020	0026_MW018_200824	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	0.72	0.72	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	09 Feb 2021	0026_MW018_210209	Normal	NSW_0026_PFASOMP	<0.01	0.01	<0.02	0.01	0.09	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW018	09 Feb 2022	0026_MW018_220209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW024	15 Nov 2016	0026_MW24_161115	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW024	15 Nov 2016	0026_QC149_161115	Field_D	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW024	15 Nov 2016	0026_QC150_161115	Field_D	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW024	14 Dec 2016	0026_MW24_161213	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW024	25 May 2017	0026_MW24_170525	Normal	NSW_0026_PFAS	0.03	0.62	1	1.62	-	0.07	0.07	0.03	<0.01	<0.05	0.03	0.13	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
MW024	21 Jun 2017	0026_MW24_170621	Normal	NSW_0026_PFAS	0.01	0.26	0.41	0.67	-	0.03	0.03	<0.01	<0.01	<0.05	0.02	0.06	<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
MW024	28 Feb 2020	0026_MW24_200228	Normal	NSW_0026_PFASOMP	<0.01	0.22	0.13	0.35	0.38	<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
MW024	25 Aug 2020	0026_MW024_200825	Normal	NSW_0026_PFASOMP	0.02	0.26	0.31	0.57	0.84	0.04	0.03	<0.02	<0.02	<0.1	0.04	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
MW024	09 Feb 2021	0026_MW024_210209	Normal	NSW_0026_PFASOMP	0.02	0.17	0.28	0.45	0.74	0.05	0.03	<0.02	<0.02	<0.1	0.04	0.12	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
MW024	09 Feb 2022	0026_MW024_220209	Normal	NSW_0026_PFASOMP	<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
MW026	16 Nov 2016	0026_MW26_161116	Normal	NSW_0026_PFAS	0.11	3.2	1.6	4.8	-	0.28	-	-	<0.01	0.09	0.07	0.69	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW026	13 Dec 2016	0026_MW26_161213	Normal	NSW_0026_PFAS	0.12	3.6	2.2	5.8	-	0.44	-	-	<0.01	0.07	0.08	0.66	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW026	23 May 2017	0026_MW26_170523	Normal	NSW_0026_PFAS	0.13	2.8	2.9	5.7	-	0.29	0.28	0.09	<0.01	0.06	0.12	0.49	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
MW026	21 Jun 2017	0026_MW26_170621	Normal	NSW_0026_PFAS	0.08	2.8	1.9	4.7	-	0.3	0.3	0.09	<0.01	0.06	0.11	0.49	0.06	<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
MW026	28 Feb 2020	0026_MW26_200228	Normal	NSW_0026_PFASOMP	0.1	0.83	2.1	2.93	7.94	1.04	0.54	0.04	<0.02	0.4	0.56	2.16	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW026	25 Aug 2020	0026_MW026_200825	Normal	NSW_0026_PFASOMP	0.14	1.08	3.01	4.09	8.12	0.76	0.55	0.07	<0.02	0.2	0.4	1.74	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW026	09 Feb 2021	0026_MW026_210209	Normal	NSW_0026_PFASOMP	0.13	2.09	3.05	5.14	7.62	0.47	0.43	0.1	<0.02	0.1	0.22	0.9	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<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					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Drinking Water					0.56			0.07																										
PFAS NEMP 2020 Freshwater 99%					19	0.00023																												
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
MW026	09 Feb 2022	0026_MW026_220209	Normal	NSW_0026_PFASOMP	0.09	1.48	2.27	3.75	5.62	0.42	0.35	0.09	<0.02	<0.1	0.16	0.68	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
MW029	15 Nov 2016	0026_MW29_161115	Normal	NSW_0026_PFAS	0.18	3	2.4	5.4	-	1.2	-	-	<0.01	0.25	0.38	2.5	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW029	12 Dec 2016	0026_MW29_161212	Normal	NSW_0026_PFAS	0.08	0.63	0.45	1.08	-	0.17	-	-	<0.01	0.09	0.08	0.28	0.08	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
MW029	24 May 2017	0026_MW29_170524	Normal	NSW_0026_PFAS	0.26	3.5	3.7	7.2	-	1.8	1	0.13	<0.01	0.25	0.8	3	0.28	<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
MW029	20 Jun 2017	0026_MW29_170620	Normal	NSW_0026_PFAS	0.12	2.6	2.4	5	-	1	0.81	0.09	<0.01	0.14	0.43	1.7	0.14	<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
MW029	27 Feb 2020	0026_MW29_200227	Normal	NSW_0026_PFASOMP	0.37	9.19	9.92	19.1	32.8	3.47	2.6	0.34	0.04	0.4	1.12	4.95	0.42	<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
MW029	27 Feb 2020	0026_QC102_200227	Field_D	NSW_0026_PFASOMP	0.4	10.5	9.65	20.2	34	3.54	2.7	0.33	0.04	0.4	1.09	4.9	0.41	<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
MW029	25 Aug 2020	0026_MW029_200825	Normal	NSW_0026_PFASOMP	0.5	7.43	14.2	21.6	43.8	5.74	3.84	0.32	<0.02	0.6	1.75	8.63	0.79	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW029	25 Aug 2020	0026_QC201_200825	Interlab_D	NSW_0026_PFASOMP	0.34	5.2	9.5	15	31	4.5	3.2	0.22	<0.02	0.48	1.1	6	0.62	<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
MW029	08 Feb 2021	0026_MW029_210208	Normal	NSW_0026_PFASOMP	0.42	5.72	11.2	16.9	37.4	5.49	4.29	0.29	<0.02	0.3	1.33	7.51	0.8	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW029	08 Feb 2022	0026_MW029_220208	Normal	NSW_0026_PFASOMP	0.42	5.65	10.1	15.8	35.9	5	3.55	0.23	<0.02	0.4	1.25	8.68	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
MW031	25 May 2017	0026_MW31_170525	Normal	NSW_0026_PFAS	<0.01	<0.01	0.02	0.02	-	0.11	0.06	<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
MW031	21 Jun 2017	0026_MW31_170621	Normal	NSW_0026_PFAS	<0.01	<0.01	0.02	0.02	-	0.07	0.05	<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
MW031	21 Jun 2017	0026_QC159_170621	Field_D	NSW_0026_PFAS	<0.01	<0.01	0.02	0.02	-	0.07	0.05	<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
MW031	21 Jun 2017	0026_QC239_170621	Interlab_D	NSW_0026_PFAS	<0.01	<0.01	0.03	0.03	0.2	0.09	0.06	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW031	28 Feb 2020	0026_MW31_200228	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	0.11	0.07	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
MW031	25 Aug 2020	0026_MW031_200825	Normal	NSW_0026_PFASOMP	<0.01	<0.01	0.1	0.1	0.48	0.2	0.13	<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
MW031	09 Feb 2021	0026_MW031_210209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	0.03	0.03	0.28	0.14	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
MW031	09 Feb 2022	0026_MW031_220209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	0.04	0.04	0.33	0.17	0.08	<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
MW032	10 Feb 2017	0026_MW32_S_170210	Normal	ACTNSW_Hist_202012-3	<0.01	0.01	<0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	<0.01	-	-	-	-	-	-	-	-
MW032	23 May 2017	0026_MW32_170523	Normal	NSW_0026_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	<0.02	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW032	20 Jun 2017	0026_MW32_170620	Normal	NSW_0026_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
MW032	28 Feb 2020	0026_MW32_200228	Normal	NSW_0026_PFASOMP	<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
MW032	27 Aug 2020	0026_MW032_200827	Normal	NSW_0026_PFASOMP	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW032	09 Feb 2021	0026_MW032_210209	Normal	NSW_0026_PFASOMP	<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
MW037	22 May 2017	0026_MW37_170522	Normal	NSW_0026_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
MW037	22 May 2017	0026_QC154_170522	Field_D	NSW_0026_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
MW037	22 May 2017	0026_QC234_170522	Interlab_D	NSW_0026_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
MW037	19 Jun 2017	0026_MW37_170619	Normal	NSW_0026_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
MW037	27 Aug 2020	0026_MW037_200827	Normal	NSW_0026_PFASOMP	<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
MW037	09 Feb 2021	0026_MW037_210209	Normal	NSW_0026_PFASOMP	<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
MW037	09 Feb 2022	0026_MW037_220209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	09 Feb 2022	0026_QC103_220209	Field_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW038	23 May 2017	0026_MW38_170523	Normal	NSW_0026_PFAS	<0.01	<0.01	0.04	0.04	-	0.01	<0.01	<0.01	<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
MW038	20 Jun 2017	0026_MW38_170620	Normal	NSW_0026_PFAS	<0.01	0.01	0.03	0.04	-	0.02	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
MW038	27 Feb 2020	0026_MW38_200227	Normal	NSW_0026_PFASOMP	<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
MW038	26 Aug 2020	0026_MW038_200826	Normal	NSW_0026_PFASOMP	<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
MW038	08 Feb 2021	0026_MW038_210208	Normal	NSW_0026_PFASOMP	<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
MW038	07 Feb 2022	0026_MW038_220207	Normal	NSW_0026_PFASOMP	<0.01	<0.01	0.06	0.06	0.2	<0.02	<0.02	<0.02	<0.02	<0.1	0.04	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
MW039	23 May 2017	0026_MW39_170523	Normal	NSW_0026_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
MW039	21 Jun 2017	0026_MW39_170621	Normal	NSW_0026_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
MW039	28 Feb 2020	0026_MW39_200228	Normal	NSW_0026_PFASOMP	<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
MW039	25 Aug 2020	0026_MW039_200825	Normal	NSW_0026_PFASOMP	<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
MW039	09 Feb 2021	0026_MW039_210209	Normal	NSW_0026_PFASOMP	<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
MW039	10 Feb 2022	0026_MW039_220210	Normal	NSW_0026_PFASOMP	<0.01	0.04	0.01	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
MW044	22 May 2017	0026_MW44_170522	Normal	NSW_0026_PFAS	0.24	0.06	5.1	5.16	-	3.4	1.4	0.05	<0.01	0.7	1.2	4.1	0.42	<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
MW044	20 Jun 2017	0026_MW44_170620	Normal	NSW_0026_PFAS	0.39	0.17	11	11.17	-	5.1	3	0.08	<0.01	0.92	1.3	6.9	0.65	<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
MW044	26 Feb 2020	0026_MW44_200226	Normal	NSW_0026_PFASOMP	0.5	0.69	15.8	16.5	33.4	4	3.94	0.24	<0.02	0.7	1.08	5.81	0.59	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	24 Aug 2020	0026_MW044_200824	Normal	NSW_0026_PFASOMP	0.38	0.47	12.7	13.2	27	3.24	3.33	0.2	<0.02	0.5	0.85	4.86	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	24 Aug 2020	0026_QC100_200824	Field_D	NSW_0026_PFASOMP	0.45	0.58	16.4	17	33.6	3.96	3.92	0.24	<0.02	0.6	1.02	5.8	0.58	<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
MW044	09 Feb 2021	0026_MW044_210209	Normal	NSW_0026_PFASOMP	0.46	0.55	10.1	10.6	22.4	2.52	3.38	0.24	<0.02	0.4	0.71	3.55	0.53	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	09 Feb 2021	0026_QC100_210209	Field_D	NSW_0026_PFASOMP	0.54	0.58	10.7	11.3	26	3.43	3.24	0.21	<0.02	0.4	0.84	5.46	0.62	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	09 Feb 2022	0026_MW044_220209	Normal	NSW_0026_PFASOMP	0.01	0.04	0.32	0.36	0.59	0.06	0.06	<0.02	<0.02	<0.1	<0.02	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
MW044	09 Feb 2022	0026_QC203_220209	Interlab_D	NSW_0026_PFASOMP	<0.01	0.02	0.14	0.16	0.19	<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

Location Code	Date	Field ID	Sample Type	Project ID	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)
					PFAS					**PFAS - Perfluoroalkyl Sulfonic Acids**				**PFAS - Perfluoroalkyl Carboxylic Acids**										**PFAS - (n:2) Fluorotelomer Sulfonic**				**PFAS - Perfluoroalkyl Sulfonamides**						
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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 Drinking Water					**0.56**			**0.07**																										
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
MW045	22 May 2017	0026_MW45_170522	Normal	NSW_0026_PFAS	<0.01	*0.05*	0.15	**0.2**	-	<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
MW045	19 Jun 2017	0026_MW45_170619	Normal	NSW_0026_PFAS	<0.01	*0.04*	0.11	**0.15**	-	<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
MW045	27 Feb 2020	0026_MW45_200227	Normal	NSW_0026_PFASOMP	<0.01	*0.12*	0.18	**0.3**	0.3	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW045	26 Aug 2020	0026_MW045_200826	Normal	NSW_0026_PFASOMP	<0.01	*0.1*	0.19	**0.29**	0.29	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW045	11 Feb 2021	0026_MW045_210211	Normal	NSW_0026_PFASOMP	<0.01	*0.03*	0.1	**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
MW045	11 Feb 2021	0026_QC202_210211	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.02	0.091	**0.091**	-	<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
MW045	07 Feb 2022	0026_MW045_220207	Normal	NSW_0026_PFASOMP	<0.01	*0.03*	0.12	**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
MW046	22 May 2017	0026_MW46_170522	Normal	NSW_0026_PFAS	<0.01	*0.03*	0.1	**0.13**	-	0.02	0.01	<0.01	<0.01	<0.05	0.01	0.09	<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
MW046	19 Jun 2017	0026_MW46_170619	Normal	NSW_0026_PFAS	<0.01	<0.01	0.06	0.06	-	0.02	0.01	<0.01	<0.01	<0.05	0.01	0.06	<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
MW046	26 Aug 2020	0026_MW046_200826	Normal	NSW_0026_PFASOMP	<0.01	*0.11*	0.1	**0.21**	0.29	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW046	11 Feb 2021	0026_MW046_210211	Normal	NSW_0026_PFASOMP	<0.01	*0.07*	0.07	**0.14**	0.21	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW046	07 Feb 2022	0026_MW046_220207	Normal	NSW_0026_PFASOMP	<0.01	*0.03*	0.09	**0.12**	0.22	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW072	27 Aug 2020	0026_MW072_200827	Normal	NSW_0026_PFASOMP	<0.01	*0.13*	<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
MW072	09 Feb 2021	0026_MW072_210209	Normal	NSW_0026_PFASOMP	<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
MW072	08 Feb 2022	0026_MW072_220208	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	27 Aug 2020	0026_MW073_200827	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	09 Feb 2021	0026_MW073_210209	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	08 Feb 2022	0026_MW073_220208	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	08 Feb 2022	0026_QC201_220208	Interlab_D	NSW_0026_PFASOMP	<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

Notes:

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

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW001	15 Nov 2016	0026_SW01_161115	Normal	NSW_0026_PFAS	<0.01	*0.05*	0.02	0.07	-	<0.01	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW001	13 Dec 2016	0026_SW01_161213	Normal	NSW_0026_PFAS	<0.01	*0.06*	0.03	0.09	-	<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	-	<0.05	-	<0.05	-	-	<0.05	-
SW001	17 Dec 2016	0026_SW01_161217	Normal	NSW_0026_PFAS	<0.01	*0.18*	0.02	0.2	-	<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	0.17	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW001	09 Feb 2017	0026_SW01_170209	Normal	NSW_0026_PFAS	<0.01	*0.05*	<0.01	0.05	-	<0.01	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW001	30 Mar 2017	0026_SW01_170330	Normal	NSW_0026_PFAS	<0.01	*0.1*	0.08	0.18	-	<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
SW001	27 Jun 2019	SW01_270619	Normal	NSW_0026_FSBGME	0.05	*0.97*	1.36	**2.33**	3.6	0.14	0.13	0.04	<0.02	<0.1	0.18	0.39	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.28	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	11 Feb 2020	0026_SW01_200211	Normal	NSW_0026_PFASOMP	<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
SW001	26 Feb 2020	0026_SW01_200226	Normal	NSW_0026_PFASOMP	<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
SW001	20 May 2020	0026_SW001_200520	Normal	NSW_0026_PFASOMP	<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
SW001	14 Jul 2020	0026_SW001_200714	Normal	NSW_0026_PFASOMP	<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
SW001	27 Aug 2020	0026_SW001_200827	Normal	NSW_0026_PFASOMP	<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
SW001	02 Nov 2020	0026_SW001_201102	Normal	NSW_0026_PFASOMP	<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
SW001	10 Feb 2021	0026_QC101_210210	Field_D	NSW_0026_PFASOMP	<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
SW001	10 Feb 2021	0026_SW001_210210	Normal	NSW_0026_PFASOMP	<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
SW001	11 Aug 2021	0026_SW001_210811	Normal	NSW_0026_PFASOMP	<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
SW001	08 Feb 2022	0026_SW001_220208	Normal	NSW_0026_PFASOMP	<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
SW001	15 Aug 2022	0026_SW001_220815	Normal	NSW_0026_PFASOMP	<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
SW002	15 Nov 2016	0026_QC164_161114	Field_D	NSW_0026_PFAS	<0.01	*0.03*	0.01	0.04	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	15 Nov 2016	0026_QC244_161114	Field_D	NSW_0026_PFAS	<0.01	*0.03*	0.01	0.04	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	15 Nov 2016	0026_SW02_161115	Normal	NSW_0026_PFAS	<0.01	*0.03*	0.01	0.04	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	13 Dec 2016	0026_SW02_161213	Normal	NSW_0026_PFAS	0.04	*0.03*	0.02	0.05	-	<0.01	-	-	<0.01	<0.05	<0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	17 Dec 2016	0026_QC174_161217	Field_D	NSW_0026_PFAS	<0.01	*0.05*	0.02	0.07	-	<0.01	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	17 Dec 2016	0026_QC248_161217	Interlab_D	NSW_0026_PFAS	0.01	*0.04*	0.06	0.1	0.11	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	17 Dec 2016	0026_SW02_161217	Normal	NSW_0026_PFAS	<0.01	*0.04*	0.02	0.06	-	<0.01	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	09 Feb 2017	0026_QC179_170209	Field_D	NSW_0026_PFAS	<0.01	*0.03*	0.01	0.04	-	<0.01	-	-	0.04	<0.05	<0.01	<0.01	<0.01	<0.01	0.01	0.05	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	09 Feb 2017	0026_SW02_170209	Normal	NSW_0026_PFAS	<0.01	*0.03*	0.01	0.04	-	<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	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	31 Mar 2017	0026_SW02_170403	Normal	NSW_0026_PFAS	<0.01	*0.03*	0.05	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
SW002	27 Jun 2019	SW02_270619	Normal	NSW_0026_FSBGME	0.04	*0.75*	1.19	1.94	3.29	0.12	0.11	0.03	<0.02	<0.1	0.21	0.4	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.37	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	11 Feb 2020	0026_SW02_200211	Normal	NSW_0026_PFASOMP	<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
SW002	26 Feb 2020	0026_SW02_200226	Normal	NSW_0026_PFASOMP	<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
SW002	20 May 2020	0026_SW002_200520	Normal	NSW_0026_PFASOMP	<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
SW002	14 Jul 2020	0026_SW002_200714	Normal	NSW_0026_PFASOMP	<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
SW002	27 Aug 2020	0026_QC104_200827	Field_D	NSW_0026_PFASOMP	<0.01	*0.1*	<0.02	0.1	0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	27 Aug 2020	0026_SW002_200827	Normal	NSW_0026_PFASOMP	<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
SW002	02 Nov 2020	0026_SW002_201102	Normal	NSW_0026_PFASOMP	<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
SW002	10 Feb 2021	0026_QC201_210210	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.02	0.015	0.015	-	<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
SW002	10 Feb 2021	0026_SW002_210210	Normal	NSW_0026_PFASOMP	<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
SW002	11 Aug 2021	0026_SW002_210811	Normal	NSW_0026_PFASOMP	<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
SW002	08 Feb 2022	0026_QC202_220208	Interlab_D	NSW_0026_PFASOMP	<0.01	*0.01*	0.03	0.04	0.04	<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
SW002	08 Feb 2022	0026_SW002_220208	Normal	NSW_0026_PFASOMP	<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
SW002	15 Aug 2022	0026_SW002_220815	Normal	NSW_0026_PFASOMP	<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
SW004B	10 Dec 2019	0026_SW04B_191211	Normal	NSW_0026_PFASOMP	<0.01	*0.05*	0.08	0.13	0.16	<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
SW004B	11 Feb 2020	0026_SW04B_200211	Normal	NSW_0026_PFASOMP	0.02	*0.38*	0.31	0.69	0.93	0.05	0.04	<0.02	<0.02	<0.1	0.04	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
SW004B	26 Feb 2020	0026_SW04B_200226	Normal	NSW_0026_PFASOMP	0.01	*0.31*	0.22	0.53	0.69	0.03	0.02	<0.02	<0.02	<0.1	0.03	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
SW004B	20 May 2020	0026_SW04B_200520	Normal	NSW_0026_PFASOMP	0.03	*0.86*	0.59	1.45	1.94	0.1	0.08	0.02	<0.02	<0.1	0.07	0.16	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
SW004B	14 Jul 2020	0026_SW004B_200714	Normal	NSW_0026_PFASOMP	0.02	*0.36*	0.44	0.8	1.11	0.06	0.05	<0.02	<0.02	<0.1	0.04	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
SW004B	27 Aug 2020	0026_QC204_200827	Interlab_D	NSW_0026_PFASOMP	<0.01	*0.3*	0.14	0.44	0.51	0.02	0.02	<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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5
SW004B	27 Aug 2020	0026_SW04B_200827	Normal	NSW_0026_PFASOMP	<0.01	*0.46*	0.15	0.61	0.67	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
SW004B	02 Nov 2020	0026_SW004B_201102	Normal	NSW_0026_PFASOMP	0.02	*0.35*	0.44	0.79	1.09	0.06	0.06	<0.02	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	10 Feb 2021	0026_SW004B_210210	Normal	NSW_0026_PFASOMP	0.02	*0.41*	0.24	0.65	0.84	0.04	0.03	<0.02	<0.02	<0.1	0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	11 Aug 2021	0026_QC200_210811	Interlab_D	NSW_0026_PFASOMP	<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
SW004B	11 Aug 2021	0026_SW004B_210811	Normal	NSW_0026_PFASOMP	<0.01	*0.2*	0.18	0.38	0.46	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
SW004B	08 Feb 2022	0026_SW004B_220208	Normal	NSW_0026_PFASOMP	<0.01	*0.19*	0.14	0.33	0.37	<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

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW004B	15 Aug 2022	0026_SW004B_220815	Normal	NSW_0026_PFASOMP	<0.01	*0.14*	0.11	0.25	0.28	<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
SW005	14 Nov 2016	0026_SW05_161114	Normal	NSW_0026_PFAS	0.2	*3.5*	2.3	**5.8**	-	0.3	-	-	<0.01	0.31	0.89	6.8	0.21	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21	0.02	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	12 Dec 2016	0026_SW05_161212	Normal	NSW_0026_PFAS	0.09	*2.6*	1.3	**3.9**	-	0.15	-	-	<0.01	0.07	0.24	0.59	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	17 Dec 2016	0026_SW05_161217	Normal	NSW_0026_PFAS	0.01	*0.71*	0.22	0.93	-	0.06	-	-	<0.01	<0.05	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	09 Feb 2017	0026_SW05_170209	Normal	NSW_0026_PFAS	0.11	*3.4*	1.1	**4.5**	-	0.15	-	-	<0.01	0.1	0.11	0.54	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW005	29 Mar 2017	0026_SW05_170329	Normal	NSW_0026_PFAS	0.15	*3.6*	2.8	**6.4**	-	0.25	0.2	0.09	<0.01	0.14	0.22	0.81	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.36	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	10 Dec 2019	0026_SW05_191211	Normal	NSW_0026_PFASOMP	0.06	*1.68*	2.96	**4.64**	6.68	0.31	0.32	0.08	<0.02	0.1	0.22	0.78	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	11 Feb 2020	0026_SW05_200211	Normal	NSW_0026_PFASOMP	0.05	*1.64*	1.02	**2.66**	3.45	0.15	0.12	0.03	<0.02	<0.1	0.12	0.29	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
SW005	26 Feb 2020	0026_SW05_200226	Normal	NSW_0026_PFASOMP	0.11	*3.86*	1.72	**5.58**	7.15	0.23	0.2	0.07	0.05	<0.1	0.26	0.56	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
SW005	20 May 2020	0026_SW005_200520	Normal	NSW_0026_PFASOMP	0.16	*3.65*	2.88	**6.53**	8.99	0.45	0.4	0.13	<0.02	<0.1	0.31	0.85	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
SW005	14 Jul 2020	0026_SW005_200714	Normal	NSW_0026_PFASOMP	0.1	*1.95*	2.09	**4.04**	5.69	0.25	0.26	0.08	<0.02	<0.1	0.19	0.67	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
SW005	27 Aug 2020	0026_SW005_200827	Normal	NSW_0026_PFASOMP	0.13	*2.43*	2.27	**4.7**	6.45	0.29	0.34	0.1	<0.02	<0.1	0.16	0.64	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
SW005	02 Nov 2020	0026_SW005_201102	Normal	NSW_0026_PFASOMP	0.17	*4.23*	2.92	**7.15**	9.37	0.37	0.35	0.13	<0.02	0.1	0.18	0.81	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
SW005	09 Feb 2021	0026_SW005_210209	Normal	NSW_0026_PFASOMP	0.14	*2.84*	1.65	**4.49**	6.1	0.32	0.24	0.08	<0.02	<0.1	0.13	0.58	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
SW005	11 Aug 2021	0026_SW005_210811	Normal	NSW_0026_PFASOMP	0.47	*6.36*	6.52	**12.9**	20.1	1.29	1.4	0.29	0.07	0.2	0.47	2.67	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
SW005	08 Feb 2022	0026_SW005_220208	Normal	NSW_0026_PFASOMP	0.13	*2.61*	1.81	**4.42**	5.79	0.2	0.22	0.08	<0.02	<0.1	0.12	0.55	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
SW005	15 Aug 2022	0026_SW005_220815	Normal	NSW_0026_PFASOMP	0.28	*4.22*	3.27	**7.49**	10.5	0.47	0.58	0.18	<0.02	0.1	0.18	1.02	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
SW006	02 May 2016	0026_QC160_160502	Field_D	NSW_0026_PFAS	0.05	*0.22*	0.94	1.16	-	0.15	-	-	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	02 May 2016	0026_SW06_160502	Normal	NSW_0026_PFAS	0.05	*0.33*	0.89	1.22	-	0.15	-	-	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	31 Oct 2016	0026_SW06_161031	Normal	NSW_0026_PFAS	0.1	*2.7*	1.9	**4.6**	-	0.23	-	-	<0.01	0.15	0.31	1.4	0.1	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	12	0.06	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	14 Nov 2016	0026_SW06_161114	Normal	NSW_0026_PFAS	0.16	*13*	2.2	**15.2**	-	0.16	-	-	<0.01	0.05	0.1	0.45	0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	0.08	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	12 Dec 2016	0026_SW06_161212	Normal	NSW_0026_PFAS	0.11	*3.7*	2.2	**5.9**	-	0.23	-	-	<0.01	0.1	0.33	0.74	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	0.02	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	16 Dec 2016	0026_SW06_161216	Normal	NSW_0026_PFAS	0.1	*5*	1.2	**6.2**	-	0.13	-	-	<0.01	0.06	0.07	0.4	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.8	0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	09 Feb 2017	0026_SW06_170209	Normal	NSW_0026_PFAS	0.2	*6.4*	2	**8.4**	-	0.28	-	-	<0.01	0.14	0.13	0.92	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW006	10 Dec 2019	0026_SW06_191211	Normal	NSW_0026_PFASOMP	0.04	*1.1*	3.43	**4.53**	5.76	0.26	0.31	0.08	<0.02	<0.1	0.09	0.41	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
SW006	11 Feb 2020	0026_SW06_200211	Normal	NSW_0026_PFASOMP	0.09	*2.1*	1.66	**3.76**	5.15	0.3	0.24	0.08	<0.02	<0.1	0.16	0.47	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	26 Feb 2020	0026_SW06_200226	Normal	NSW_0026_PFASOMP	0.13	*5.98*	2.3	**8.28**	9.96	0.28	0.27	0.1	0.02	<0.1	0.18	0.56	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	20 May 2020	0026_SW006_200520	Normal	NSW_0026_PFASOMP	0.1	*4.35*	2.24	**6.59**	8.07	0.23	0.26	0.13	<0.02	<0.1	0.16	0.44	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
SW006	14 Jul 2020	0026_SW006_200714	Normal	NSW_0026_PFASOMP	0.05	*1.53*	1.32	**2.85**	3.64	0.15	0.16	0.04	<0.02	<0.1	0.06	0.29	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
SW006	26 Aug 2020	0026_SW006_200826	Normal	NSW_0026_PFASOMP	0.16	*4.04*	3.53	**7.57**	9.82	0.39	0.47	0.18	<0.02	<0.1	0.16	0.79	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
SW006	02 Nov 2020	0026_SW006_201102	Normal	NSW_0026_PFASOMP	0.2	*4.19*	3.57	**7.76**	10.4	0.45	0.45	0.15	<0.02	0.1	0.2	1	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
SW006	09 Feb 2021	0026_SW006_210209	Normal	NSW_0026_PFASOMP	0.22	*13*	2.3	**15.3**	17.2	0.31	0.27	0.22	0.08	<0.1	0.08	0.54	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
SW006	11 Aug 2021	0026_QC101_210811	Field_D	NSW_0026_PFASOMP	0.18	*5.24*	3.2	**8.44**	10.3	0.3	0.4	0.18	<0.02	<0.1	0.11	0.59	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
SW006	11 Aug 2021	0026_SW006_210811	Normal	NSW_0026_PFASOMP	0.21	*4.87*	3.48	**8.35**	10.6	0.36	0.45	0.18	<0.02	<0.1	0.16	0.74	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
SW006	08 Feb 2022	0026_SW006_220208	Normal	NSW_0026_PFASOMP	0.1	*2.48*	1.95	**4.43**	8.07	0.2	0.21	0.08	<0.02	<0.1	0.15	0.74	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	2.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	15 Aug 2022	0026_QC201_220815	Interlab_D	NSW_0026_PFASOMP	0.42	*12*	4.3	**16**	20	0.59	0.58	0.3	<0.02	0.1	0.26	1.3	0.22	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
SW006	15 Aug 2022	0026_SW006_220815	Normal	NSW_0026_PFASOMP	0.43	*12.2*	4.73	**16.9**	21.2	0.61	0.83	0.32	0.03	0.2	0.24	1.33	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
SW007	14 Dec 2016	0026_SW07_161214	Normal	NSW_0026_PFAS	0.12	*3.6*	1.1	**4.7**	-	0.13	-	-	<0.01	0.3	1.4	1.8	0.42	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.3	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW007	16 Dec 2016	0026_SW07_161216	Normal	NSW_0026_PFAS	0.02	*0.59*	0.43	1.02	-	0.03	-	-	<0.01	<0.05	0.03	0.09	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW007	08 Feb 2017	0026_SW07_170208	Normal	NSW_0026_PFAS	0.06	*2.7*	0.67	**3.37**	-	0.08	-	-	<0.01	<0.05	0.05	0.26	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW007	11 Feb 2020	0026_SW07_200211	Normal	NSW_0026_PFASOMP	0.02	*0.36*	0.36	0.72	0.99	0.07	0.05	<0.02	<0.02	<0.1	0.04	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
SW007	26 Feb 2020	0026_SW07_200226	Normal	NSW_0026_PFASOMP	0.04	*1.11*	0.62	1.73	2.54	0.11	0.08	0.02	<0.02	<0.1	0.17	0.26	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	20 May 2020	0026_SW007_200520	Normal	NSW_0026_PFASOMP	0.04	*1.5*	1.97	**3.47**	4.29	0.18	0.24	0.08	<0.02	<0.1	0.04	0.22	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	14 Jul 2020	0026_SW007_200714	Normal	NSW_0026_PFASOMP	0.01	*0.39*	0.37	0.76	0.88	0.03	0.03	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	26 Aug 2020	0026_SW007_200826	Normal	NSW_0026_PFASOMP	0.03	*0.94*	1.34	**2.28**	2.87	0.14	0.16	0.05	<0.02	<0.1	0.02	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
SW007	02 Nov 2020	0026_QC100_201102	Field_D	NSW_0026_PFASOMP	0.02	*0.62*	0.8	1.42	1.7	0.07	0.08	0.02	<0.02	<0.1	<0.02	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
SW007	02 Nov 2020	0026_SW007_201102	Normal	NSW_0026_PFASOMP	0.02	*0.73*	0.84	1.57	1.9	0.08	0.08	0.03	<0.02	<0.1	0.02	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
SW007	11 Feb 2021	0026_SW007_210211	Normal	NSW_0026_PFASOMP	0.01	*0.47*	0.18	0.65	0.9	0.03	0.02	<0.02	<0.02	<0.1	0.06	0.1	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
SW007	11 Aug 2021	0026_SW007_210811	Normal	NSW_0026_PFASOMP	0.02	*0.25*	0.93	1.18	1.74	0.13	0.13	0.02	<0.02	<0.1	0.05	0.18	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
SW007	07 Feb 2022	0026_SW007_220207	Normal	NSW_0026_PFASOMP	0.01	*0.28*	0.24	0.52	0.84	0.04	0.03	<0.02	<0.02	<0.1	0.1	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
SW007	15 Aug 2022	0026_QC101_220815	Field_D	NSW_0026_PFASOMP	0.05	*0.97*	0.63	1.6	2.24	0.13	0.12	0.03	<0.02	<0.1	0.08	0.19	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
SW007	15 Aug 2022	0026_SW007_220815	Normal	NSW_0026_PFASOMP	0.05	*1.2*	0.7	1.9	2.53	0.12	0.12	0.04	<0.02	<0.1	0.07	0.19	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
SW008	06 May 2016	0026_SW08_160506	Normal	NSW_0026_PFAS	0.04	*0.42*	0.61	1.03	-	0.06	-	-	<0.01	<0.05	0.04	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW008	16 Nov 2016	0026_SW08_161116	Normal	NSW_0026_PFAS	0.04	2	0.68	2.68	-	0.07	-	-	<0.01	<0.05	0.03	0.22	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	14 Dec 2016	0026_SW08_161214	Normal	NSW_0026_PFAS	0.06	2.8	1.5	4.3	-	0.16	-	-	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	17 Dec 2016	0026_SW08_161217	Normal	NSW_0026_PFAS	0.03	2	0.56	2.56	-	0.05	-	-	<0.01	<0.05	0.02	0.14	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	09 Feb 2017	0026_SW08_170209	Normal	NSW_0026_PFAS	0.04	1.6	0.52	2.12	-	0.05	-	-	<0.01	<0.05	0.02	0.15	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW008	10 Dec 2019	0026_SW08_191210	Normal	NSW_0026_PFASOMP	0.1	0.77	4.53	5.3	7.93	0.35	0.27	0.07	<0.02	<0.1	0.22	1.55	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
SW008	11 Feb 2020	0026_SW08_200211	Normal	NSW_0026_PFASOMP	0.02	1.11	0.76	1.87	2.23	0.08	0.06	0.03	<0.02	<0.1	0.03	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	26 Feb 2020	0026_SW08_200226	Normal	NSW_0026_PFASOMP	0.04	0.92	0.92	1.84	2.39	0.1	0.09	0.02	<0.02	<0.1	0.04	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	20 May 2020	0026_SW008_200520	Normal	NSW_0026_PFASOMP	0.07	1.9	1.74	3.64	4.66	0.14	0.18	0.06	<0.02	<0.1	0.08	0.44	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	14 Jul 2020	0026_SW008_200714	Normal	NSW_0026_PFASOMP	0.02	0.82	0.35	1.17	1.33	0.02	0.03	<0.02	<0.02	<0.1	<0.02	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
SW008	26 Aug 2020	0026_SW008_200826	Normal	NSW_0026_PFASOMP	0.03	0.8	0.9	1.7	2.23	0.1	0.12	0.03	<0.02	<0.1	0.03	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	02 Nov 2020	0026_SW008_201102	Normal	NSW_0026_PFASOMP	0.03	1.06	0.72	1.78	2.1	0.07	0.07	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
SW008	08 Feb 2021	0026_SW008_210208	Normal	NSW_0026_PFASOMP	0.05	2.49	0.88	3.37	3.94	0.11	0.09	0.04	<0.02	<0.1	0.03	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
SW008	11 Aug 2021	0026_SW008_210811	Normal	NSW_0026_PFASOMP	0.04	0.51	0.7	1.21	1.92	0.13	0.13	<0.02	<0.02	<0.1	0.05	0.24	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	10 Feb 2022	0026_SW008_220210	Normal	NSW_0026_PFASOMP	0.1	2.21	2.05	4.26	5.55	0.19	0.24	0.07	<0.02	<0.1	0.09	0.55	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	15 Aug 2022	0026_SW008_220815	Normal	NSW_0026_PFASOMP	0.11	1.28	1.89	3.17	4.52	0.24	0.31	0.06	<0.02	<0.1	0.08	0.49	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
SW009	15 Nov 2016	0026_SW09_161115	Normal	NSW_0026_PFAS	0.06	3.8	0.95	4.75	-	0.09	-	-	<0.01	<0.05	0.04	0.29	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	16 Nov 2016	0026_SW09_161116	Normal	NSW_0026_PFAS	0.07	3.7	1	4.7	-	0.1	-	-	<0.01	<0.05	0.04	0.29	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	12 Dec 2016	0026_SW09_161212	Normal	NSW_0026_PFAS	0.05	3.2	0.73	3.93	-	0.06	-	-	<0.01	<0.05	0.03	0.17	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW009	16 Dec 2016	0026_SW09_161216	Normal	NSW_0026_PFAS	0.52	25	5.3	30.3	-	0.84	-	-	<0.01	0.27	0.25	2	0.16	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	09 Feb 2017	0026_SW09_170209	Normal	NSW_0026_PFAS	0.51	23	5.1	28.1	-	0.63	-	-	<0.01	0.29	0.23	2.1	0.12	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW009	10 Dec 2019	0026_SW09_191211	Normal	NSW_0026_PFASOMP	0.03	1.34	1	2.34	2.92	0.15	0.07	0.04	<0.02	<0.1	0.03	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Feb 2020	0026_SW09_200211	Normal	NSW_0026_PFASOMP	0.35	25.4	8.95	34.4	38	0.42	0.57	0.36	0.04	0.1	0.31	1.39	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Feb 2020	0026_SW09_200226	Normal	NSW_0026_PFASOMP	0.3	16.9	7.07	24	27.2	0.41	0.51	0.29	<0.02	<0.1	0.3	1.28	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<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	20 May 2020	0026_SW009_200520	Normal	NSW_0026_PFASOMP	0.42	7.04	2.33	9.37	11.2	0.25	0.18	0.14	<0.02	<0.1	0.12	0.54	0.09	0.05	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	14 Jul 2020	0026_SW009_200714	Normal	NSW_0026_PFASOMP	0.07	2.56	1.33	3.89	5.12	0.12	0.11	0.07	<0.02	<0.1	0.07	0.41	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	26 Aug 2020	0026_SW009_200826	Normal	NSW_0026_PFASOMP	0.28	15.8	7.6	23.4	26.9	0.42	0.66	0.35	<0.02	0.1	0.26	1.31	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<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	02 Nov 2020	0026_SW009_201102	Normal	NSW_0026_PFASOMP	0.19	12.7	4.57	17.3	19.4	0.33	0.29	0.19	0.02	<0.1	0.18	0.87	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
SW009	08 Feb 2021	0026_SW009_210208	Normal	NSW_0026_PFASOMP	0.16	6.66	2.08	8.74	10.5	0.27	0.26	0.12	<0.02	<0.1	0.13	0.73	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
SW009	11 Aug 2021	0026_QC100_210811	Field_D	NSW_0026_PFASOMP	0.07	1.92	1.56	3.48	4.42	0.17	0.16	0.07	<0.02	<0.1	0.07	0.35	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Aug 2021	0026_SW009_210811	Normal	NSW_0026_PFASOMP	0.07	2.03	1.61	3.64	4.57	0.17	0.16	0.06	<0.02	<0.1	0.08	0.35	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
SW009	09 Feb 2022	0026_SW009_220209	Normal	NSW_0026_PFASOMP	0.19	11.8	4.78	16.6	20.5	0.32	0.41	0.22	0.03	0.1	0.23	1.23	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	15 Aug 2022	0026_SW009_220815	Normal	NSW_0026_PFASOMP	0.21	8.44	3.93	12.4	14.6	0.31	0.45	0.2	<0.02	0.1	0.14	0.76	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	06 May 2016	0026_SW12_160506	Normal	NSW_0026_PFAS	0.05	0.43	0.98	1.41	-	0.19	-	-	<0.01	<0.05	0.05	0.23	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	16 Nov 2016	0026_SW12_161116	Normal	NSW_0026_PFAS	0.09	2.6	1.8	4.4	-	0.27	-	-	<0.01	0.06	0.07	0.47	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	14 Dec 2016	0026_QC171_161214	Field_D	NSW_0026_PFAS	0.1	2.9	2	4.9	-	0.28	-	-	<0.01	0.06	0.05	0.44	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	14 Dec 2016	0026_SW12_161214	Normal	NSW_0026_PFAS	0.08	2.2	2	4.2	-	0.27	-	-	<0.01	<0.05	0.04	0.35	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	17 Dec 2016	0026_SW12_161217	Normal	NSW_0026_PFAS	0.09	2.3	1.9	4.2	-	0.27	-	-	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	09 Feb 2017	0026_SW12_170209	Normal	NSW_0026_PFAS	0.09	4.3	1.3	5.6	-	0.19	-	-	<0.01	0.06	0.06	0.34	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW012	10 Dec 2019	0026_QC100_191210	Field_D	NSW_0026_PFASOMP	0.01	0.83	0.29	1.12	1.18	<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
SW012	10 Dec 2019	0026_SW12_191210	Normal	NSW_0026_PFASOMP	0.01	0.84	0.3	1.14	1.2	<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	11 Feb 2020	0026_QC100_200211	Field_D	NSW_0026_PFASOMP	<0.01	0.2	0.23	0.43	0.47	0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	11 Feb 2020	0026_SW12_200211	Normal	NSW_0026_PFASOMP	<0.01	0.13	0.21	0.34	0.36	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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	26 Feb 2020	0026_SW12_200226	Normal	NSW_0026_PFASOMP	<0.01	0.08	0.22	0.3	0.36	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
SW012	14 Jul 2020	0026_SW012_200714	Normal	NSW_0026_PFASOMP	<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
SW012	26 Aug 2020	0026_SW012_200826	Normal	NSW_0026_PFASOMP	<0.01	0.1	0.19	0.29	0.34	0.02	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
SW012	08 Feb 2021	0026_SW012_210208	Normal	NSW_0026_PFASOMP	<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
SW012	11 Aug 2021	0026_SW012_210811	Normal	NSW_0026_PFASOMP	<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	10 Feb 2022	0026_SW012_220210	Normal	NSW_0026_PFASOMP	0.06	1.18	1.43	2.61	3.44	0.18	0.18	0.05	<0.02	<0.1	0.06	0.26	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
SW012	15 Aug 2022	0026_SW012_220815	Normal	NSW_0026_PFASOMP	0.13	3.25	3.15	6.4	8.13	0.35	0.42	0.11	<0.02	<0.1	0.1	0.54	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
SW013	14 Nov 2016	0026_SW13_161114	Normal	NSW_0026_PFAS	0.07	2.7	1.7	4.4	-	0.27	-	-	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW013	13 Dec 2016	0026_SW13_161213	Normal	NSW_0026_PFAS	<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	-	<0.05	-	<0.05	-	-	<0.05	-
SW013	16 Dec 2016	0026_SW13_161216	Normal	NSW_0026_PFAS	0.05	2.3	1	3.3	-	0.12	-	-	<0.01	<0.05	0.04	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW013	08 Feb 2017	0026_SW13_170208	Normal	NSW_0026_PFAS	0.02	0.64	0.29	0.93	-	0.03	-	-	<0.01	<0.05	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW013	28 Mar 2017	0026_SW13_170328	Normal	NSW_0026_PFAS	0.06	2.2	1.5	3.7	-	0.12	0.11	0.05	<0.01	<0.05	0.07	0.27	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
SW013	12 Nov 2019	0026_QC200_191211	Interlab_D	NSW_0026_PFASOMP	0.064	0.83	1.8	2.63	-	0.27	0.22	0.034	<0.01	0.086	0.13	0.46	0.067	<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
SW013	10 Dec 2019	0026_SW13_191211	Normal	NSW_0026_PFASOMP	0.06	0.78	2.84	3.62	5.34	0.36	0.3	0.05	<0.02	<0.1	0.12	0.76	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
SW013	11 Feb 2020	0026_QC200_200211	Interlab_D	NSW_0026_PFASOMP	0.019	0.61	0.57	1.18	-	0.064	0.059	0.016	<0.01	<0.05	0.031	0.1	0.014	<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
SW013	11 Feb 2020	0026_SW13_200211	Normal	NSW_0026_PFASOMP	0.03	0.82	0.71	1.53	1.89	0.08	0.07	0.02	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	26 Feb 2020	0026_QC101_200226	Field_D	NSW_0026_PFASOMP	0.08	1.55	1.55	3.1	4.07	0.16	0.15	0.05	<0.02	<0.1	0.11	0.38	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
SW013	26 Feb 2020	0026_SW13_200226	Normal	NSW_0026_PFASOMP	0.08	1.41	1.54	2.95	3.95	0.17	0.15	0.05	<0.02	<0.1	0.11	0.39	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	20 May 2020	0026_QC100_200520	Field_D	NSW_0026_PFASOMP	0.08	1.47	1.74	3.21	4.32	0.22	0.23	0.07	<0.02	<0.1	0.1	0.35	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
SW013	20 May 2020	0026_SW013_200520	Normal	NSW_0026_PFASOMP	0.07	1.57	1.84	3.41	4.54	0.24	0.23	0.08	<0.02	<0.1	0.1	0.35	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
SW013	14 Jul 2020	0026_QC100_200714	Field_D	NSW_0026_PFASOMP	0.06	1.12	2.02	3.14	4.41	0.23	0.25	0.06	<0.02	<0.1	0.1	0.5	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
SW013	14 Jul 2020	0026_SW013_200714	Normal	NSW_0026_PFASOMP	0.07	1.18	2.23	3.41	4.71	0.23	0.26	0.06	<0.02	<0.1	0.1	0.51	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
SW013	26 Aug 2020	0026_QC103_200826	Field_D	NSW_0026_PFASOMP	0.03	0.62	0.82	1.44	1.92	0.1	0.11	0.03	<0.02	<0.1	0.03	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	26 Aug 2020	0026_SW013_200826	Normal	NSW_0026_PFASOMP	0.03	0.78	0.76	1.54	1.99	0.1	0.1	0.03	<0.02	<0.1	0.03	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
SW013	02 Nov 2020	0026_QC200_201102	Interlab_D	NSW_0026_PFASOMP	0.021	0.53	0.61	1.14	-	0.071	0.061	0.015	<0.01	<0.05	0.027	0.1	0.015	<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
SW013	02 Nov 2020	0026_SW013_201102	Normal	NSW_0026_PFASOMP	0.03	0.84	0.77	1.61	2.02	0.09	0.08	0.03	<0.02	<0.1	0.03	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
SW013	08 Feb 2021	0026_SW013_210208	Normal	NSW_0026_PFASOMP	0.08	2.25	1.3	3.55	4.61	0.25	0.18	0.06	<0.02	<0.1	0.07	0.35	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
SW013	11 Aug 2021	0026_SW013_210811	Normal	NSW_0026_PFASOMP	0.08	1.22	2.44	3.66	5.02	0.3	0.31	0.07	<0.02	<0.1	0.09	0.44	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
SW013	08 Feb 2022	0026_QC102_220208	Field_D	NSW_0026_PFASOMP	0.06	1.15	1.44	2.59	3.45	0.17	0.17	0.05	<0.02	<0.1	0.06	0.31	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
SW013	08 Feb 2022	0026_SW013_220208	Normal	NSW_0026_PFASOMP	0.07	1.64	1.54	3.18	4.1	0.18	0.18	0.06	<0.02	<0.1	0.07	0.32	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
SW013	15 Aug 2022	0026_SW013_220815	Normal	NSW_0026_PFASOMP	0.06	1.03	1.16	2.19	3.05	0.19	0.21	0.04	<0.02	<0.1	0.05	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
SW014	14 Nov 2016	0026_SW14_161114	Normal	NSW_0026_PFAS	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW014	13 Dec 2016	0026_SW14_161213	Normal	NSW_0026_PFAS	<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	-	<0.05	-	<0.05	-	-	<0.05	-
SW014	16 Dec 2016	0026_SW14_161216	Normal	NSW_0026_PFAS	0.08	3.1	1.8	4.9	-	0.22	-	-	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW014	08 Feb 2017	0026_SW14_170208	Normal	NSW_0026_PFAS	0.02	0.57	0.21	0.78	-	0.02	-	-	<0.01	<0.05	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW014	28 Mar 2017	0026_SW14_170328	Normal	NSW_0026_PFAS	0.01	0.25	0.21	0.46	-	0.02	0.02	<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
SW014	10 Dec 2019	0026_SW14_191211	Normal	NSW_0026_PFASOMP	0.04	0.78	2.02	2.8	3.88	0.24	0.21	0.05	<0.02	<0.1	0.07	0.43	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
SW014	11 Feb 2020	0026_SW14_200211	Normal	NSW_0026_PFASOMP	<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
SW014	26 Feb 2020	0026_SW14_200226	Normal	NSW_0026_PFASOMP	<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
SW014	20 May 2020	0026_SW014_200520	Normal	NSW_0026_PFASOMP	<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
SW014	14 Jul 2020	0026_QC200_140720	Interlab_D	NSW_0026_PFASOMP	<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
SW014	14 Jul 2020	0026_SW014_200714	Normal	NSW_0026_PFASOMP	<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
SW014	26 Aug 2020	0026_QC203_200826	Interlab_D	NSW_0026_PFASOMP	<0.01	0.03	0.03	0.06	0.06	<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
SW014	26 Aug 2020	0026_SW014_200826	Normal	NSW_0026_PFASOMP	<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
SW014	02 Nov 2020	0026_SW014_201102	Normal	NSW_0026_PFASOMP	<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
SW014	08 Feb 2021	0026_SW014_210208	Normal	NSW_0026_PFASOMP	<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
SW014	11 Aug 2021	0026_QC201_210811	Interlab_D	NSW_0026_PFASOMP	<0.01	0.14	0.14	0.28	-	0.019	0.016	<0.01	<0.01	<0.05	<0.02	0.028	<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
SW014	11 Aug 2021	0026_SW014_210811	Normal	NSW_0026_PFASOMP	<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
SW014	08 Feb 2022	0026_SW014_220208	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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 Aug 2022	0026_SW014_220815	Normal	NSW_0026_PFASOMP	<0.01	0.01	<0.01	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	16 Nov 2016	0026_SW18_161116	Normal	NSW_0026_PFAS	0.28	8.6	6.1	14.7	-	0.97	-	-	<0.01	0.12	0.18	1.3	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	16 Dec 2016	0026_QC173_161216	Field_D	NSW_0026_PFAS	0.1	2.5	1.2	3.7	-	0.16	-	-	<0.01	0.06	0.06	0.43	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.89	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	16 Dec 2016	0026_SW18_161216	Normal	NSW_0026_PFAS	0.1	2.3	1.1	3.4	-	0.14	-	-	<0.01	0.07	0.06	0.42	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	08 Feb 2017	0026_QC177_170208	Field_D	NSW_0026_PFAS	0.09	3.7	0.97	4.67	-	0.12	-	-	<0.01	0.05	0.05	0.32	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW018	08 Feb 2017	0026_SW18_170208	Normal	NSW_0026_PFAS	0.09	3.7	0.93	4.63	-	0.11	-	-	<0.01	<0.05	0.04	0.32	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW018	11 Feb 2020	0026_SW18_200211	Normal	NSW_0026_PFASOMP	0.09	2.28	1.72	4	5.37	0.29	0.23	0.08	<0.02	<0.1	0.14	0.48	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
SW018	26 Feb 2020	0026_QC201_200226	Interlab_D	NSW_0026_PFASOMP	0.074	1.8	1.7	3.5	-	0.23	0.19	0.052	<0.01	0.092	0.12	0.41	0.053	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW018	26 Feb 2020	0026_SW18_200226	Normal	NSW_0026_PFASOMP	0.11	2.18	1.54	3.72	5.06	0.26	0.21	0.07	<0.02	<0.1	0.14	0.46	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
SW018	20 May 2020	0026_SW018_200520	Normal	NSW_0026_PFASOMP	0.5	7.16	8.29	15.4	24.3	1.66	1.68	0.4	<0.02	0.4	0.69	2.99	0.46	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	14 Jul 2020	0026_SW018_200714	Normal	NSW_0026_PFASOMP	0.02	0.71	0.56	1.27	1.63	0.05	0.06	0.02	<0.02	<0.1	0.04	0.14	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
SW018	26 Aug 2020	0026_SW018_200826	Normal	NSW_0026_PFASOMP	0.05	0.8	2.16	2.96	4.1	0.23	0.31	0.05	<0.02	<0.1	0.08	0.35	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
SW018	02 Nov 2020	0026_SW018_201102	Normal	NSW_0026_PFASOMP	0.29	5.02	5.19	10.2	14.4	0.71	0.71	0.19	<0.02	0.2	0.3	1.59	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
SW018	11 Feb 2021	0026_SW018_210211	Normal	NSW_0026_PFASOMP	0.31	8.25	4.72	13	16.5	0.63	0.63	0.27	0.02	0.1	0.21	1.14	0.26	<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
SW018	11 Aug 2021	0026_SW018_210811	Normal	NSW_0026_PFASOMP	0.06	0.52	2.15	2.67	4.23	0.32	0.37	0.04	<0.02	<0.1	0.12	0.51	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

					PFAS					PFAS - Perfluoroalkyl Sulfonic Acids				PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic				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	0.02	0.01	0.05	0.02	0.01	0.05
PFAS NEMP 2020 Freshwater 99%					*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water					**10**			**2**																										
Location Code	**Date**	**Field ID**	**Sample Type**	**Project ID**																														
SW018	07 Feb 2022	0026_SW018_220207	Normal	NSW_0026_PFASOMP	0.19	*3.82*	3.27	**7.09**	9.53	0.44	0.46	0.13	<0.02	0.1	0.18	0.85	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
SW018	15 Aug 2022	0026_QC100_220815	Field_D	NSW_0026_PFASOMP	0.16	*3.09*	3.48	**6.57**	7.99	0.25	0.39	0.14	<0.02	<0.1	0.06	0.35	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
SW018	15 Aug 2022	0026_SW018_220815	Normal	NSW_0026_PFASOMP	0.16	*3.18*	3.23	**6.41**	7.84	0.26	0.37	0.15	<0.02	<0.1	0.06	0.35	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
SW020	12 Dec 2016	0026_QC166_161212	Field_D	NSW_0026_PFAS	0.04	*1.6*	1.9	**3.5**	-	0.15	-	-	<0.01	<0.05	0.03	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	12 Dec 2016	0026_SW20_161212	Normal	NSW_0026_PFAS	<0.01	*0.48*	0.2	0.68	-	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	16 Dec 2016	0026_SW20_161216	Normal	NSW_0026_PFAS	0.05	*1*	2.1	**3.1**	-	0.16	-	-	<0.01	<0.05	0.03	0.19	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	09 Feb 2017	0026_SW20_170209	Normal	NSW_0026_PFAS	0.03	*1.2*	0.39	1.59	-	0.03	-	-	<0.01	<0.05	0.02	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW020	11 Feb 2020	0026_SW20_200211	Normal	NSW_0026_PFASOMP	0.01	*0.35*	0.39	0.74	0.88	0.04	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
SW020	26 Feb 2020	0026_SW20_200226	Normal	NSW_0026_PFASOMP	0.03	*0.89*	1.16	**2.05**	2.49	0.12	0.11	0.03	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	20 May 2020	0026_QC200_200520	Interlab_D	NSW_0026_PFASOMP	0.064	*0.82*	1.1	1.92	-	0.071	0.075	0.024	<0.01	<0.05	<0.02	0.1	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
SW020	20 May 2020	0026_SW020_200520	Normal	NSW_0026_PFASOMP	0.11	*1.47*	1.4	**2.87**	3.5	0.11	0.14	0.06	<0.02	<0.1	0.03	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
SW020	14 Jul 2020	0026_SW020_200714	Normal	NSW_0026_PFASOMP	0.01	*0.48*	0.31	0.79	0.87	<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
SW020	26 Aug 2020	0026_SW020_200826	Normal	NSW_0026_PFASOMP	0.03	*0.78*	1.24	**2.02**	2.48	0.11	0.14	0.04	<0.02	<0.1	<0.02	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	02 Nov 2020	0026_SW020_201102	Normal	NSW_0026_PFASOMP	0.02	*0.75*	0.71	1.46	1.72	0.07	0.06	0.02	<0.02	<0.1	<0.02	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
SW020	09 Feb 2021	0026_SW020_210209	Normal	NSW_0026_PFASOMP	0.03	*1.13*	1.15	**2.28**	2.77	0.14	0.13	0.04	<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
SW020	11 Aug 2021	0026_SW020_210811	Normal	NSW_0026_PFASOMP	0.05	*1.34*	1.95	**3.29**	4.05	0.15	0.19	0.07	<0.02	<0.1	0.04	0.23	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
SW020	08 Feb 2022	0026_SW020_220208	Normal	NSW_0026_PFASOMP	0.04	*0.99*	1.36	**2.35**	2.93	0.12	0.13	0.04	<0.02	<0.1	0.03	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	15 Aug 2022	0026_QC200_220815	Interlab_D	NSW_0026_PFASOMP	0.03	*0.77*	1.2	2	2.5	0.13	0.13	0.04	<0.02	<0.02	0.03	0.17	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
SW020	15 Aug 2022	0026_SW020_220815	Normal	NSW_0026_PFASOMP	0.04	*0.9*	1.23	**2.13**	2.75	0.13	0.18	0.05	<0.02	<0.1	0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

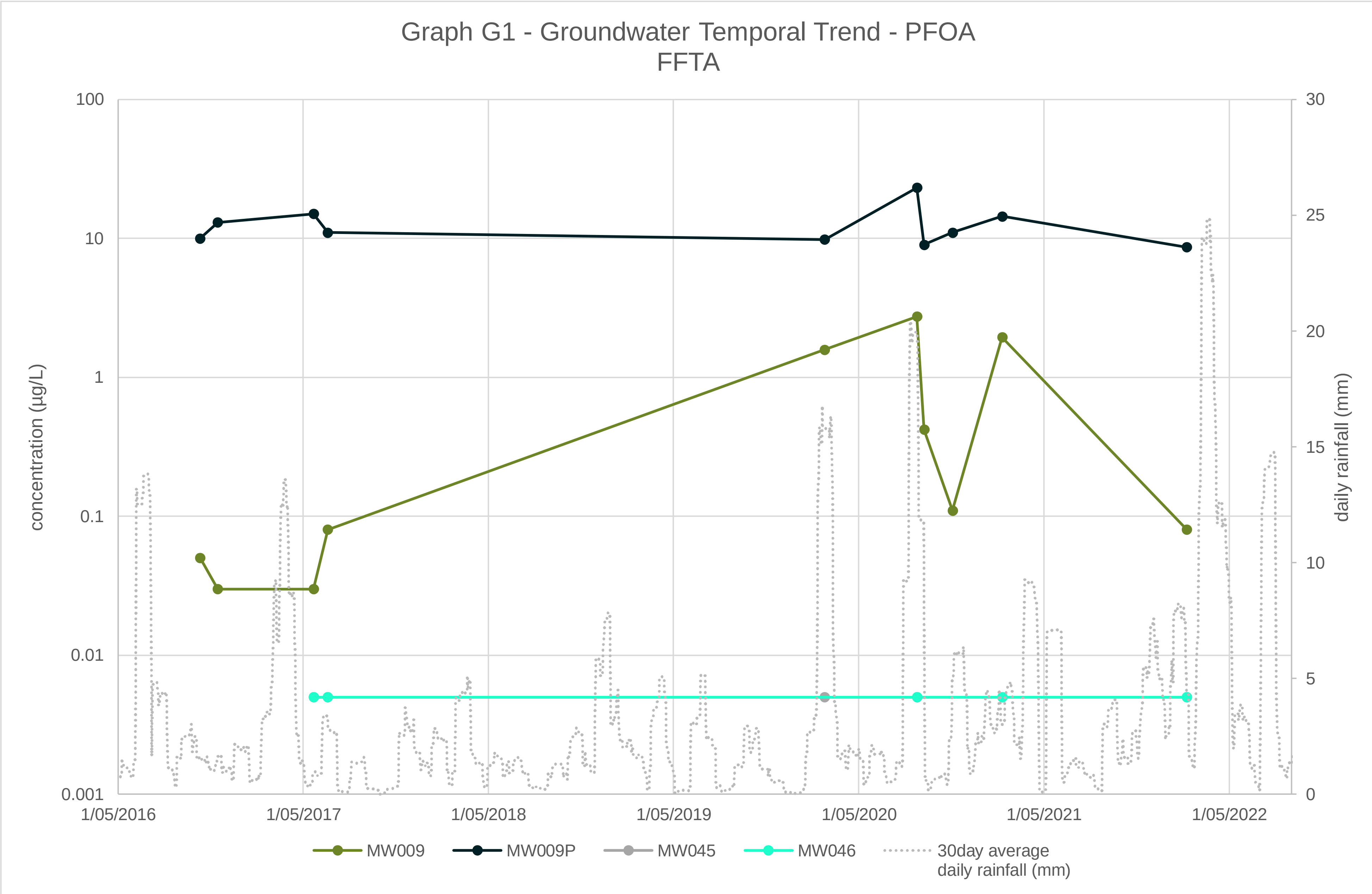
Notes:

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

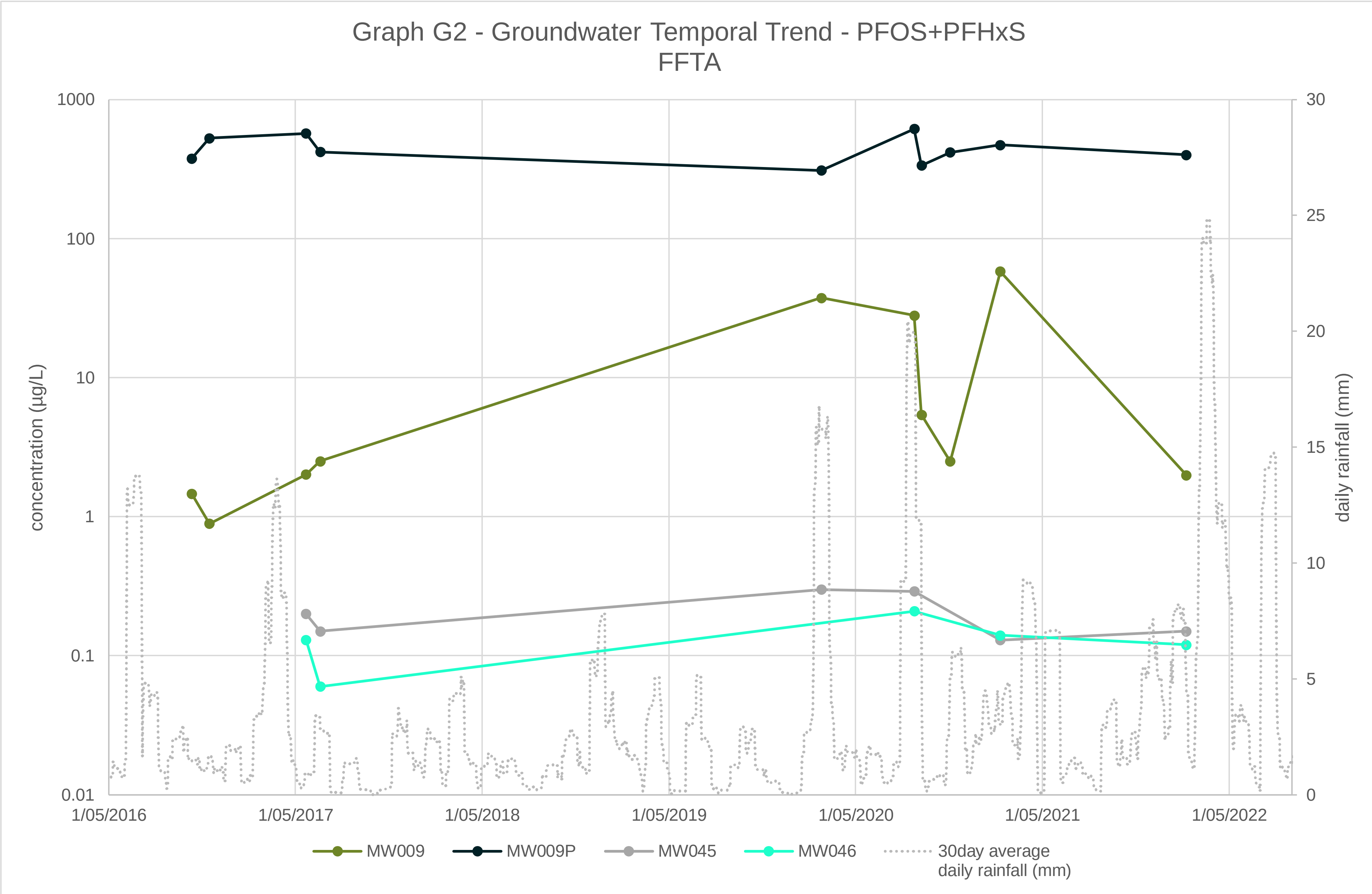
Appendix C

Graphs

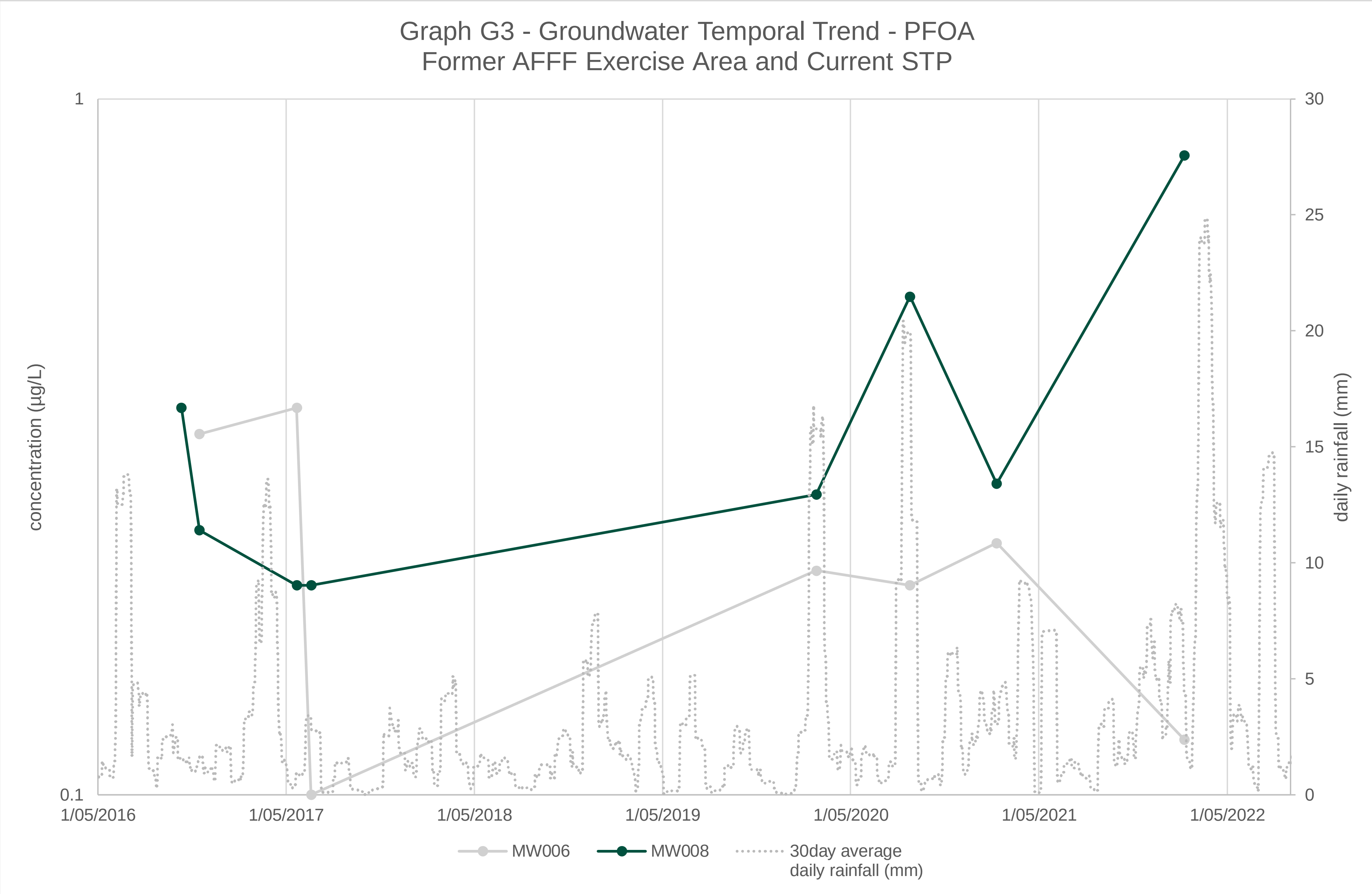
Temporal Trend Graphs

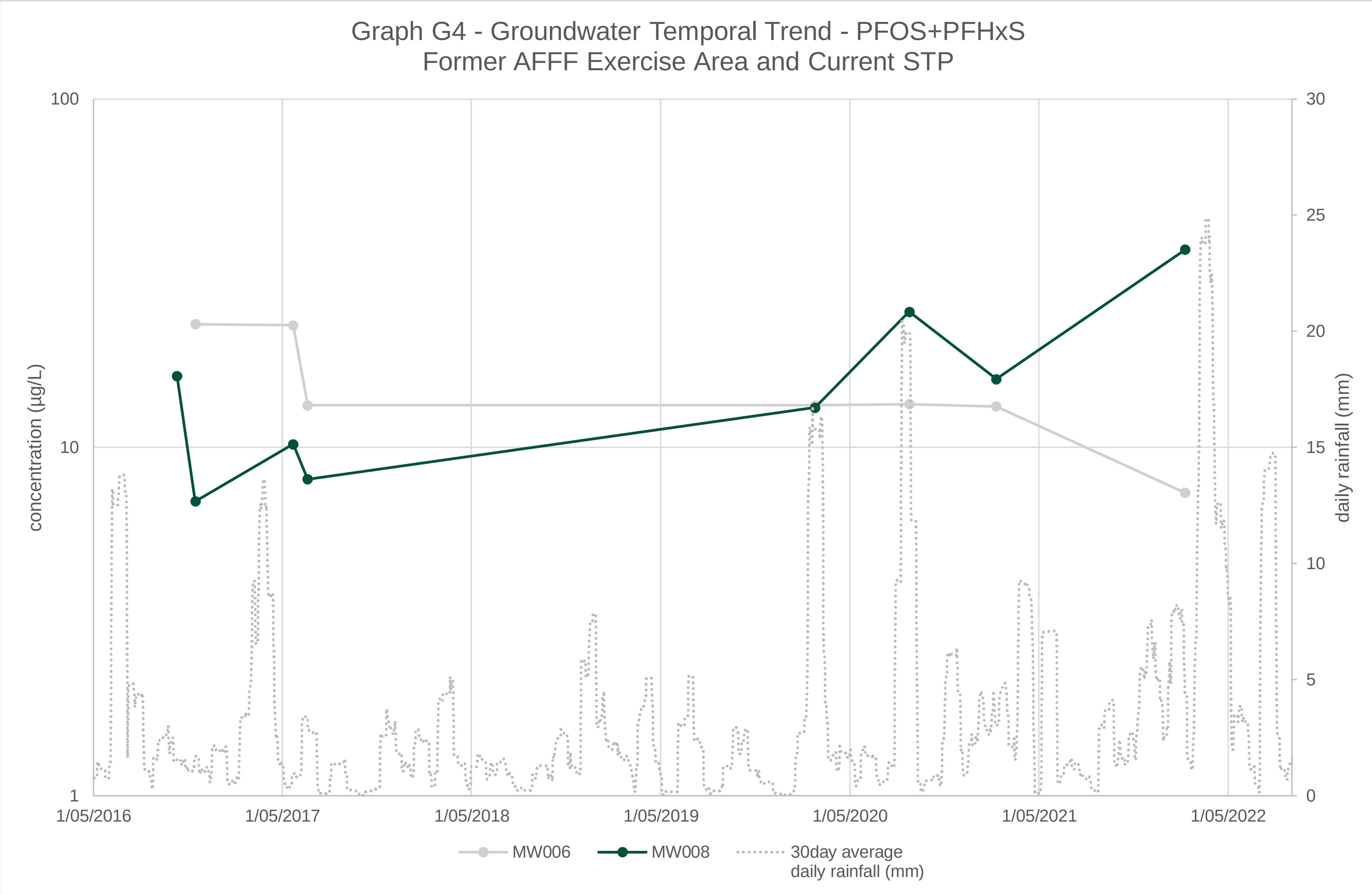


Graph G1 - Groundwater Temporal Trend - PFOA
FFTA
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW009
MW009P
MW045
MW046
30day average daily rainfall (mm)

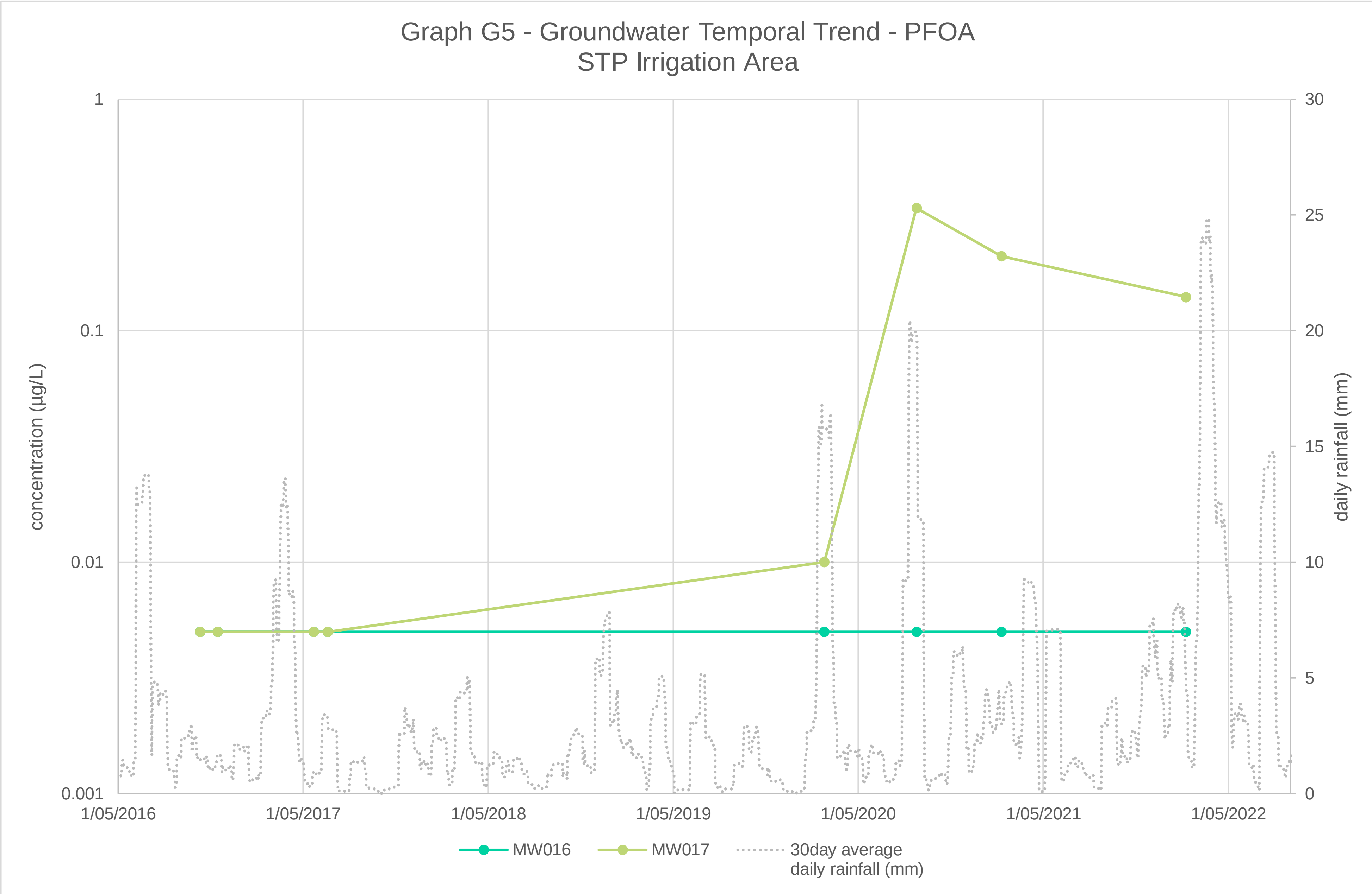


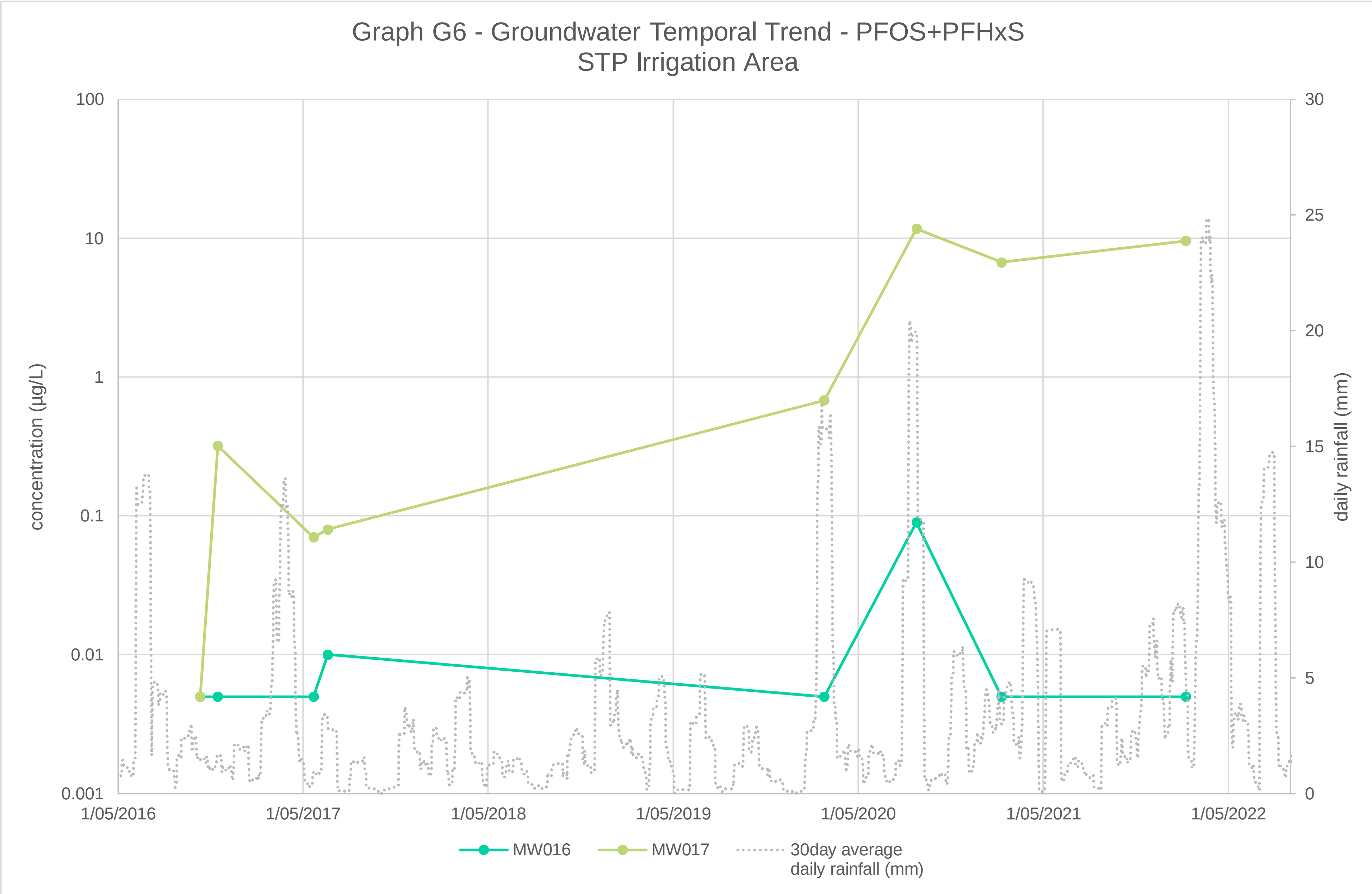
Graph G2 - Groundwater Temporal Trend - PFOS+PFHxS
FFTA
concentration (µg/L)
daily rainfall (mm)
1000
100
10
1
0.1
0.01
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW009
MW009P
MW045
MW046
30day average daily rainfall (mm)

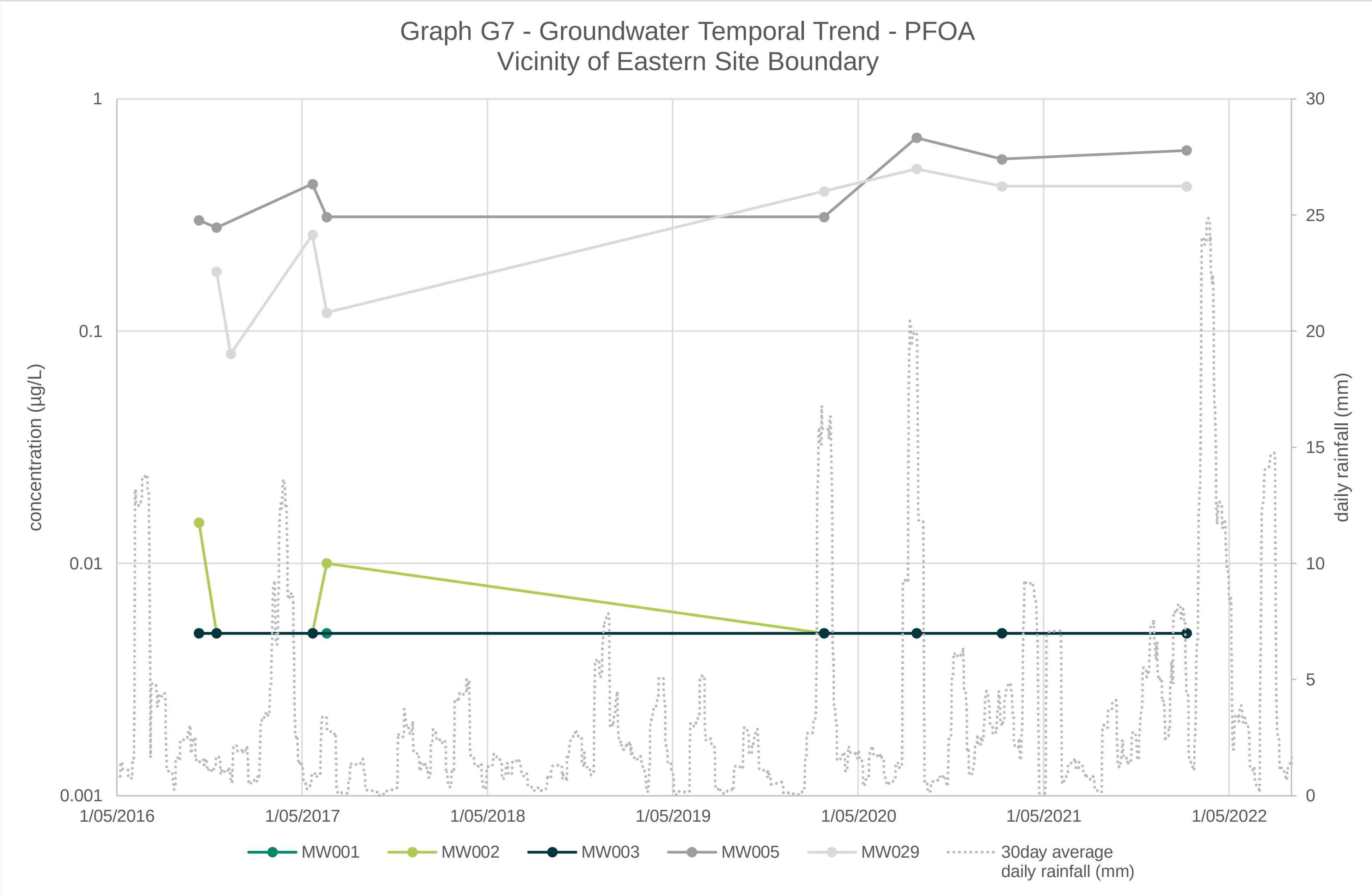

Graph G3 - Groundwater Temporal Trend - PFOA
Former AFFF Exercise Area and Current STP
concentration (µg/L)
daily rainfall (mm)
1
0.1
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW006
MW008
30day average daily rainfall (mm)



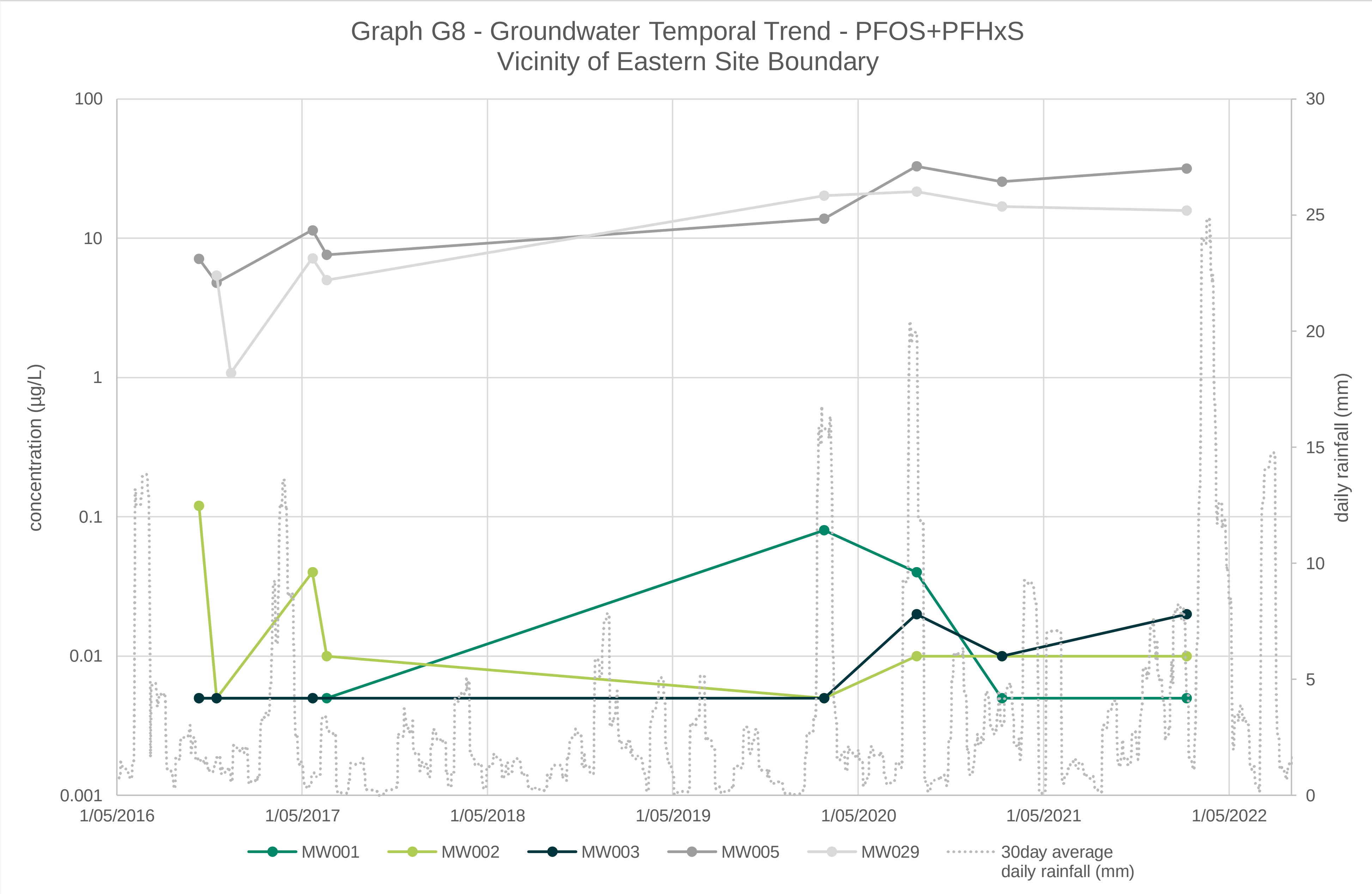
Graph G4 - Groundwater Temporal Trend - PFOS+PFHxS
Former AFFF Exercise Area and Current STP
concentration (µg/L)
daily rainfall (mm)
100
10
1
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW006
MW008
30day average daily rainfall (mm)


Graph G5 - Groundwater Temporal Trend - PFOA
STP Irrigation Area
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW016
MW017
30day average daily rainfall (mm)

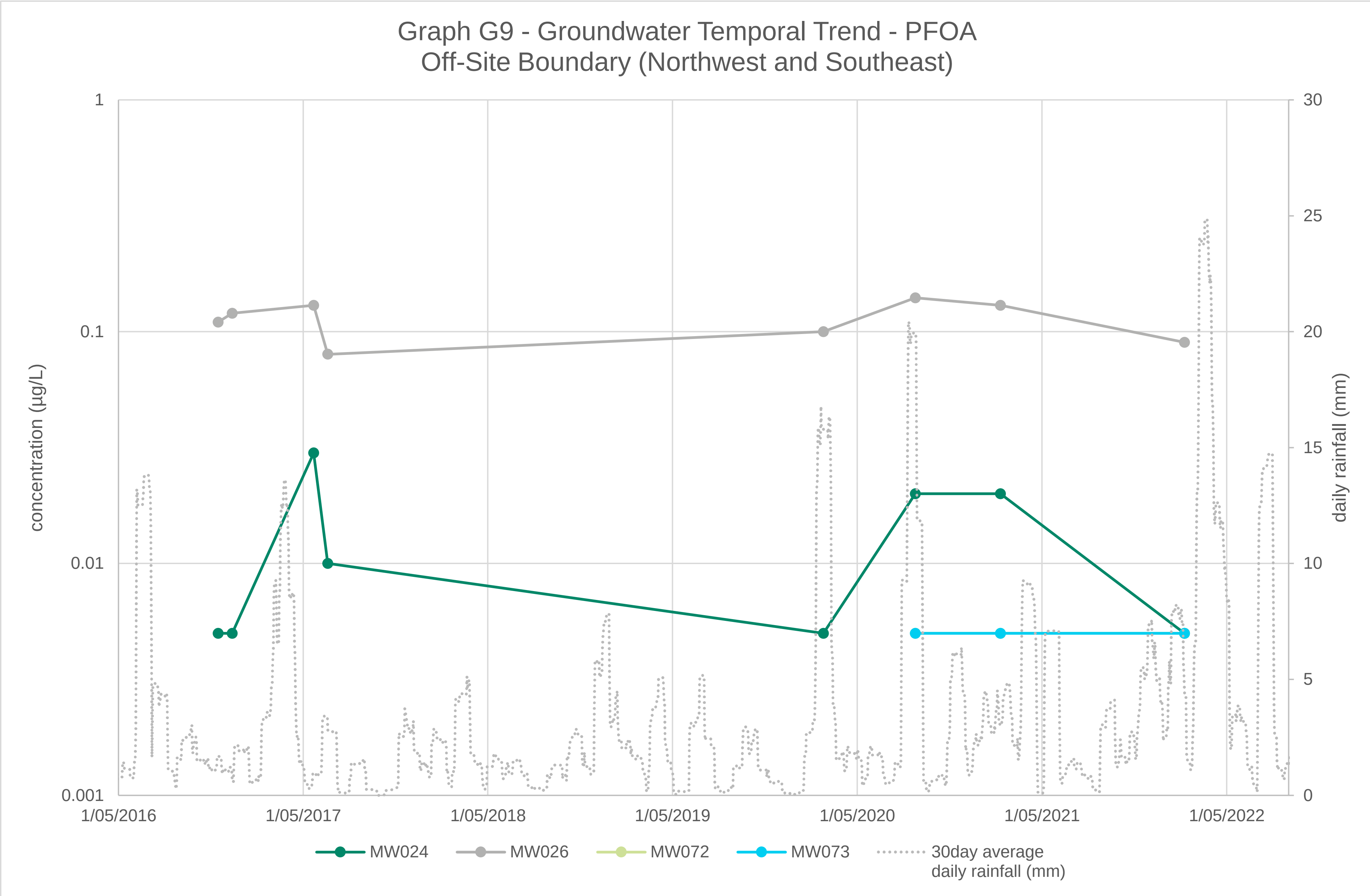

Graph G6 - Groundwater Temporal Trend - PFOS+PFHxS
STP Irrigation Area
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW016
MW017
30day average daily rainfall (mm)



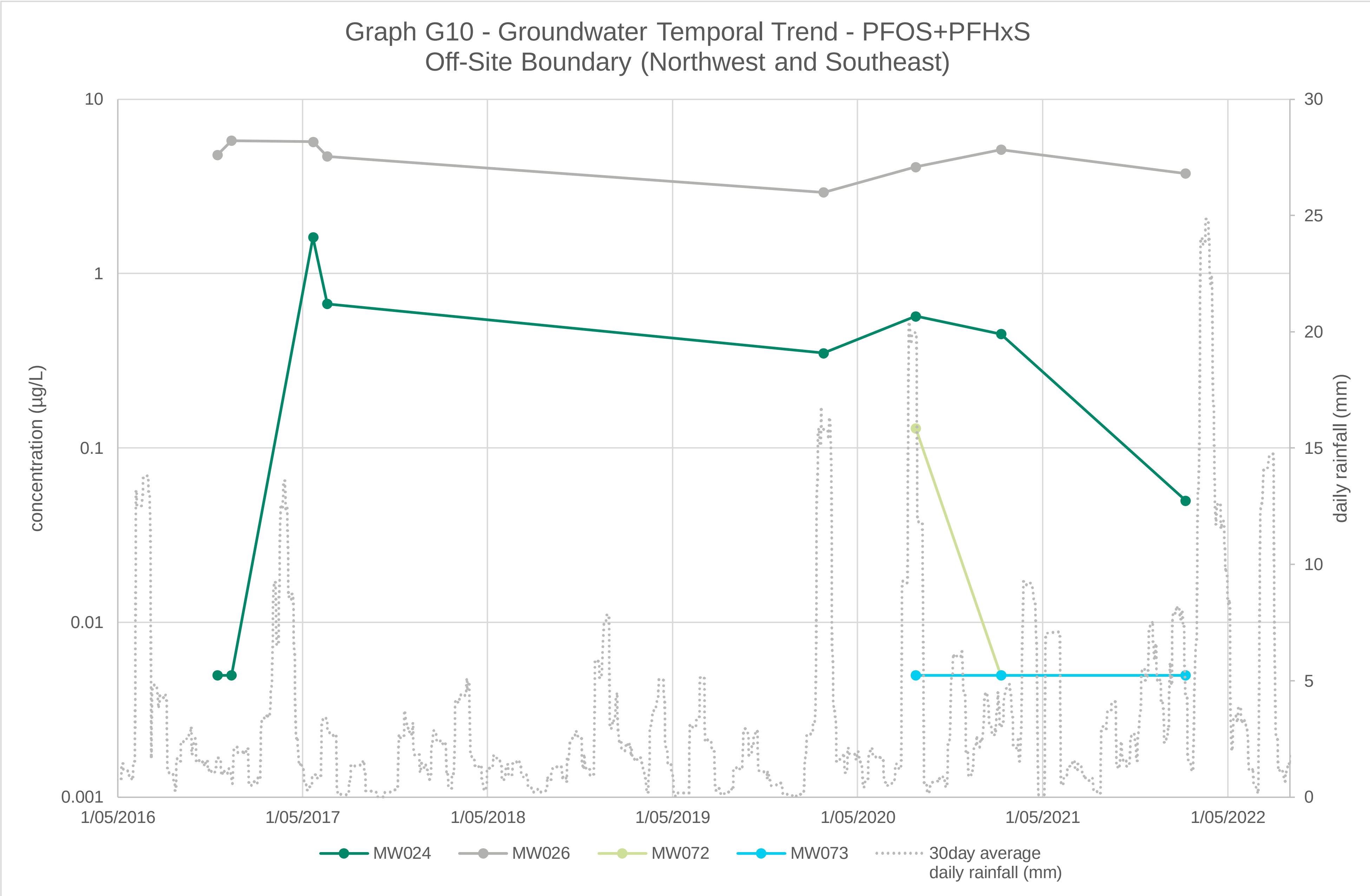
Graph G7 - Groundwater Temporal Trend - PFOA
Vicinity of Eastern Site Boundary
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW001
MW002
MW003
MW005
MW029
30day average daily rainfall (mm)



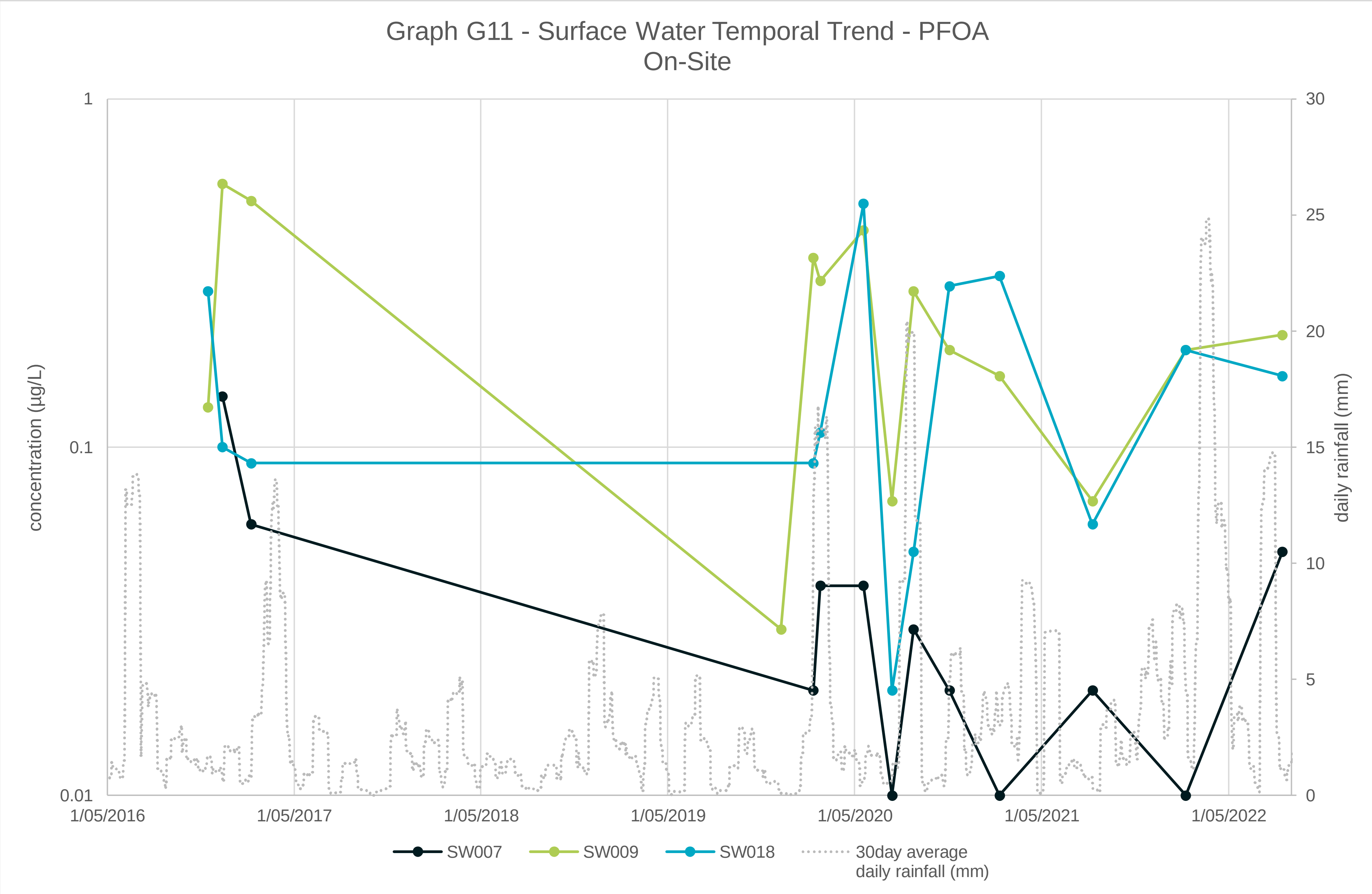
Graph G8 - Groundwater Temporal Trend - PFOS+PFHxS
Vicinity of Eastern Site Boundary
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW001
MW002
MW003
MW005
MW029
30day average daily rainfall (mm)



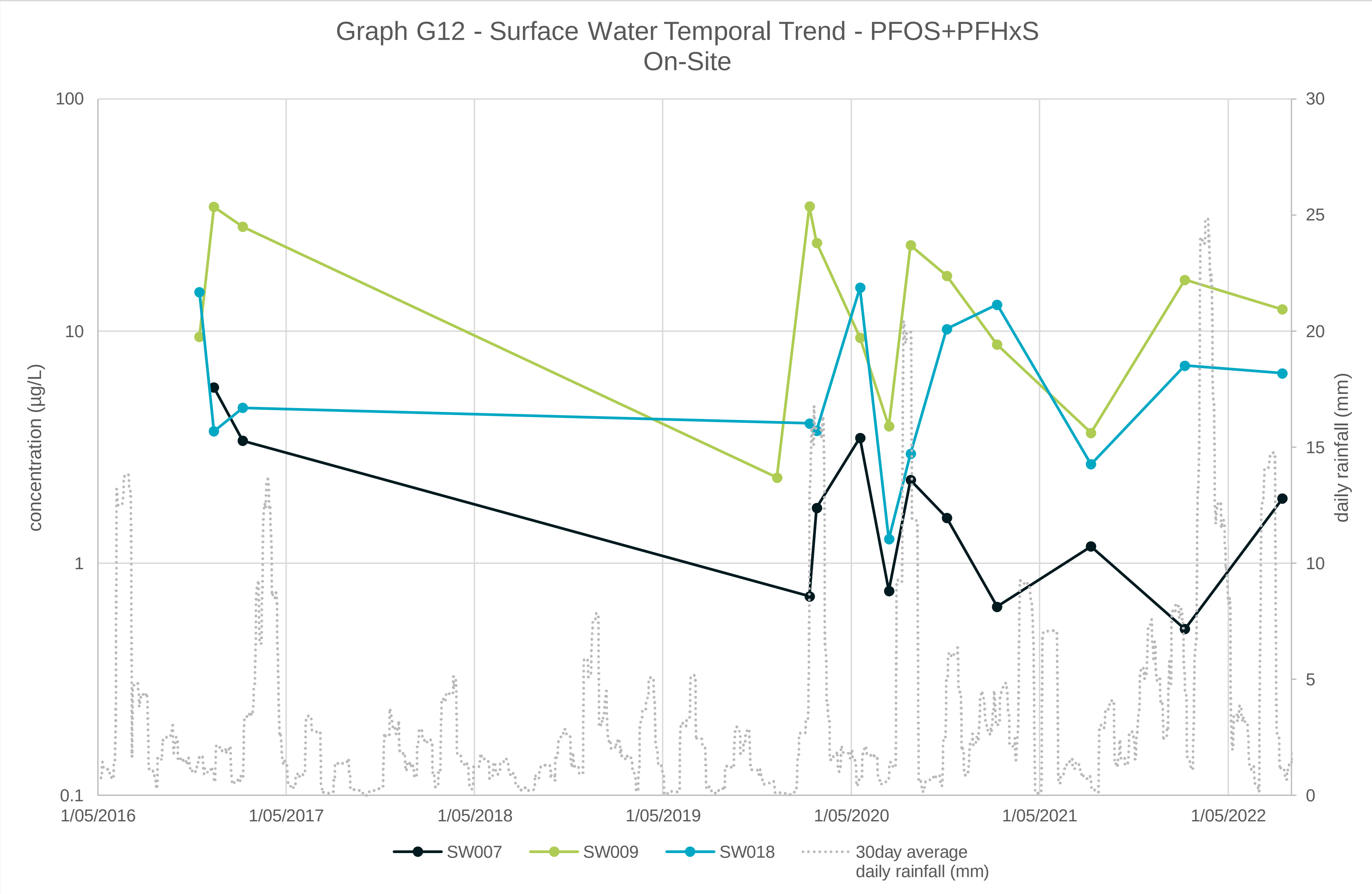
Graph G9 - Groundwater Temporal Trend - PFOA
Off-Site Boundary (Northwest and Southeast)
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW024
MW026
MW072
MW073
30day average daily rainfall (mm)



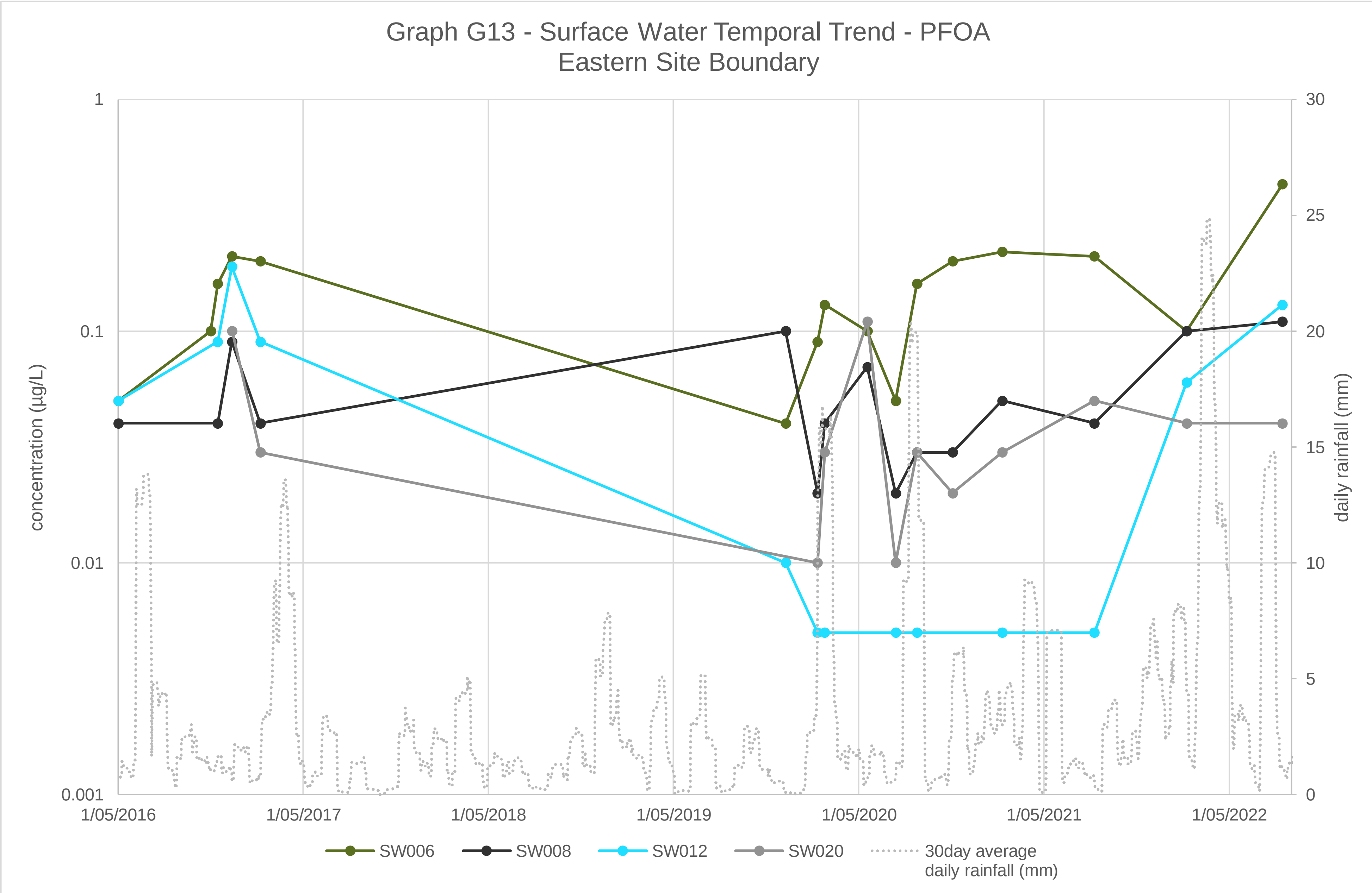
Graph G10 - Groundwater Temporal Trend - PFOS+PFHxS
Off-Site Boundary (Northwest and Southeast)
concentration (µg/L)
daily rainfall (mm)
10
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
MW024
MW026
MW072
MW073
30day average daily rainfall (mm)



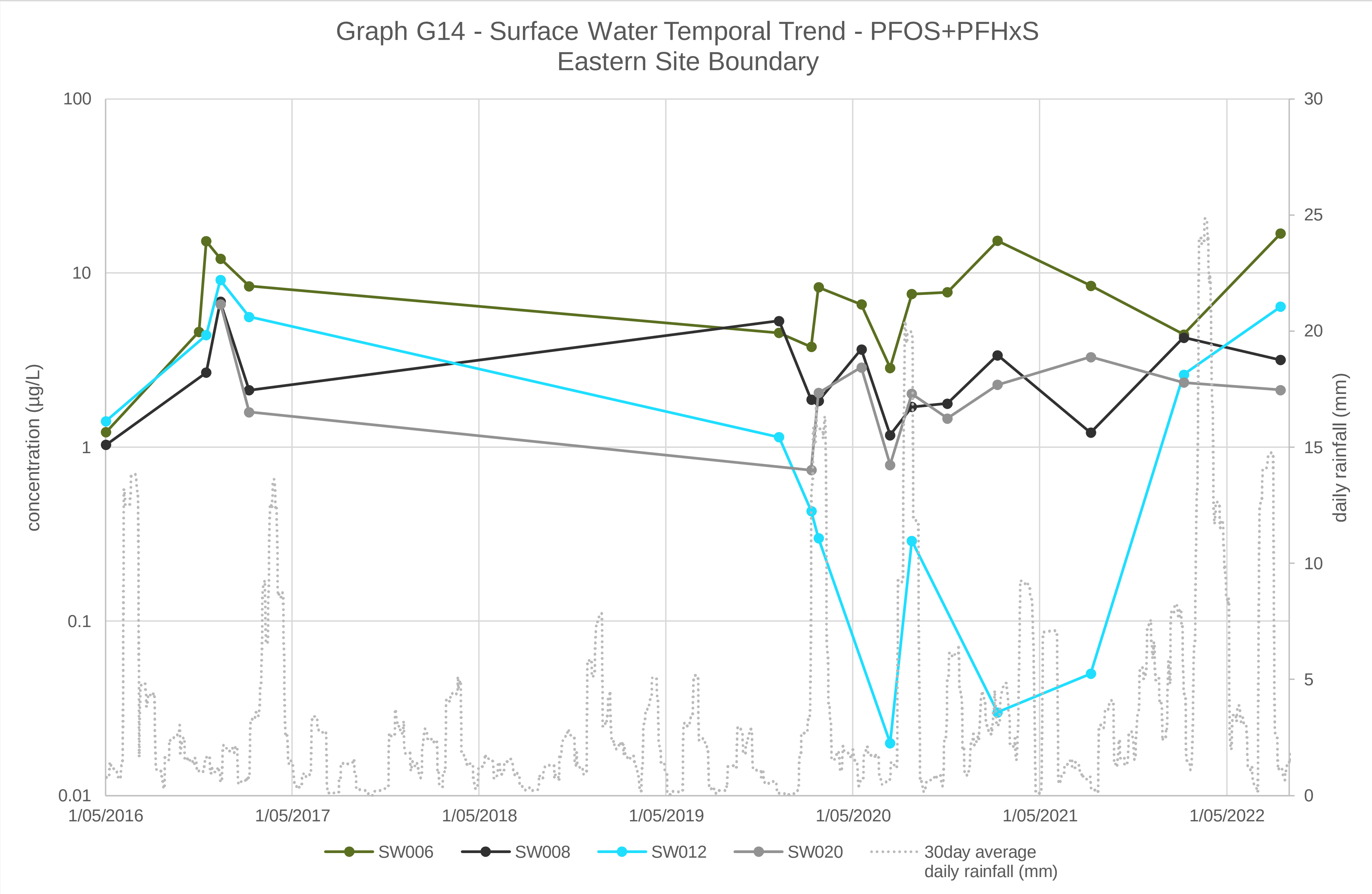
Graph G11 - Surface Water Temporal Trend - PFOA
On-Site
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW007
SW009
SW018
30day average daily rainfall (mm)



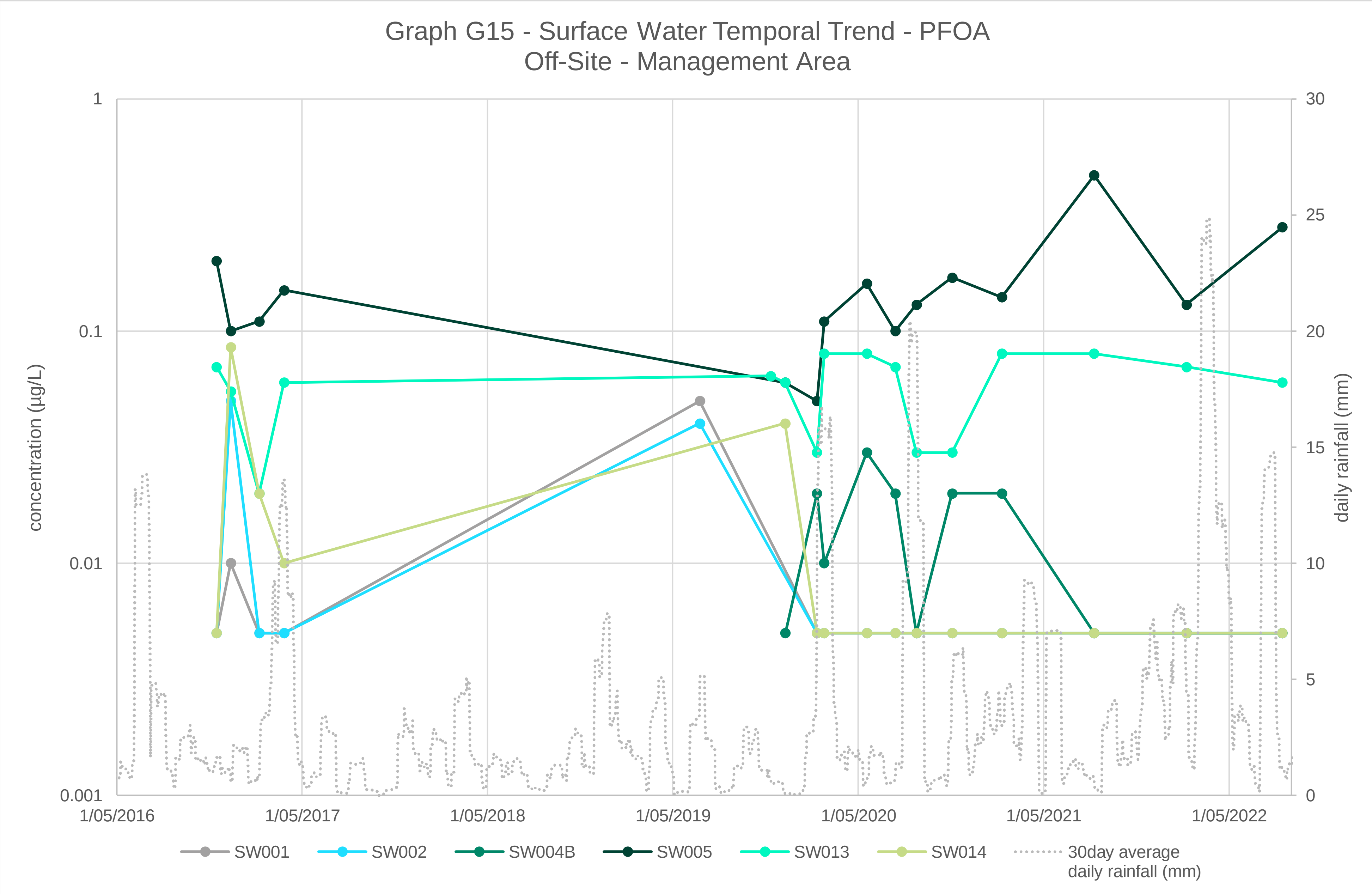
Graph G12 - Surface Water Temporal Trend - PFOS+PFHxS
On-Site
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW007
SW009
SW018
30day average
daily rainfall (mm)



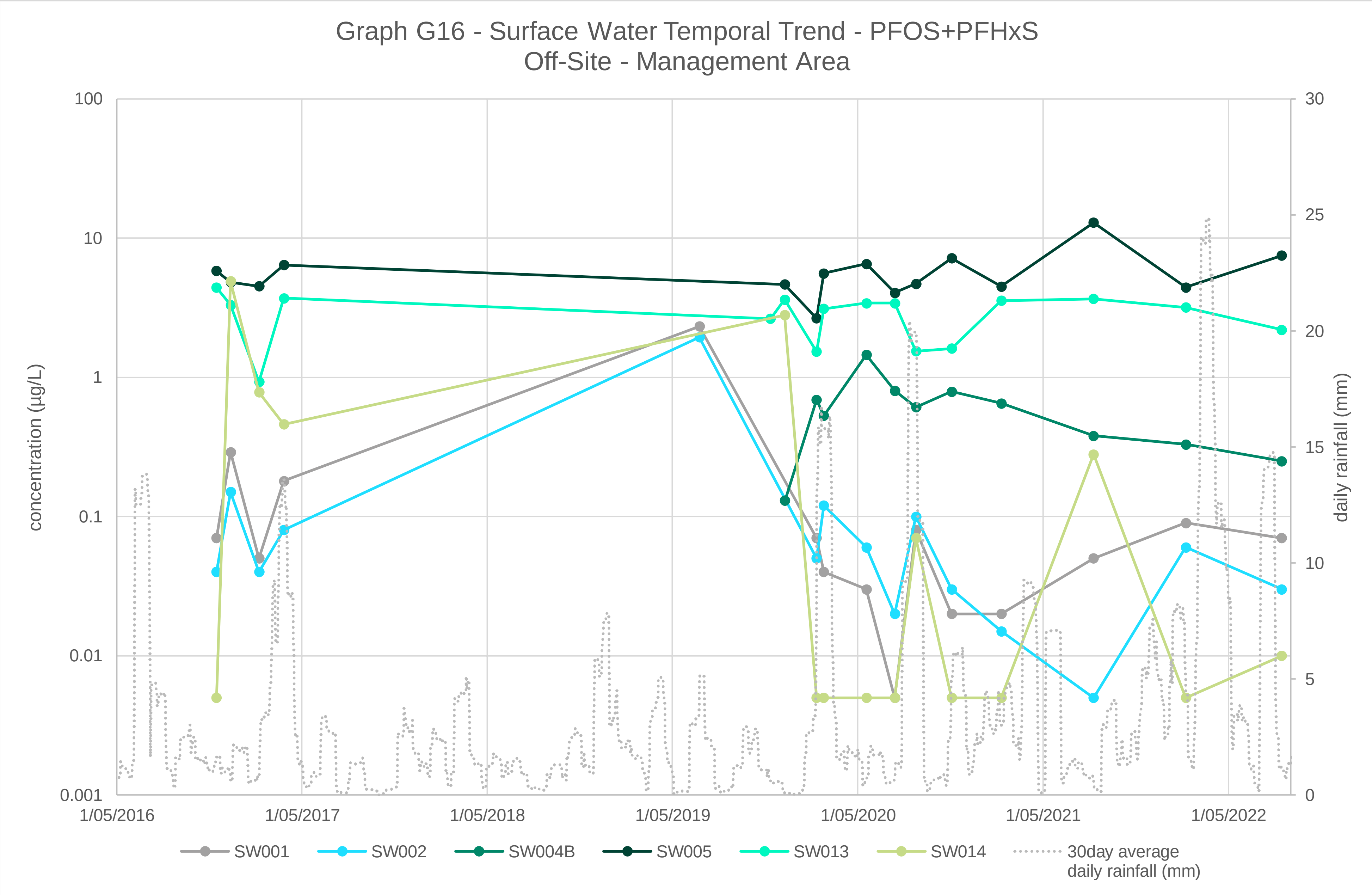
Graph G13 - Surface Water Temporal Trend - PFOA
Eastern Site Boundary
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW006
SW008
SW012
SW020
30day average daily rainfall (mm)



Graph G14 - Surface Water Temporal Trend - PFOS+PFHxS
Eastern Site Boundary
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
0.01
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW006
SW008
SW012
SW020
30day average daily rainfall (mm)



Graph G15 - Surface Water Temporal Trend - PFOA
Off-Site - Management Area
concentration (µg/L)
daily rainfall (mm)
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW001
SW002
SW004B
SW005
SW013
SW014
30day average daily rainfall (mm)



Graph G16 - Surface Water Temporal Trend - PFOS+PFHxS
Off-Site - Management Area
concentration (µg/L)
daily rainfall (mm)
100
10
1
0.1
0.01
0.001
30
25
20
15
10
5
0
1/05/2016
1/05/2017
1/05/2018
1/05/2019
1/05/2020
1/05/2021
1/05/2022
SW001
SW002
SW004B
SW005
SW013
SW014
30day average daily rainfall (mm)

Mann Kendall Analysis

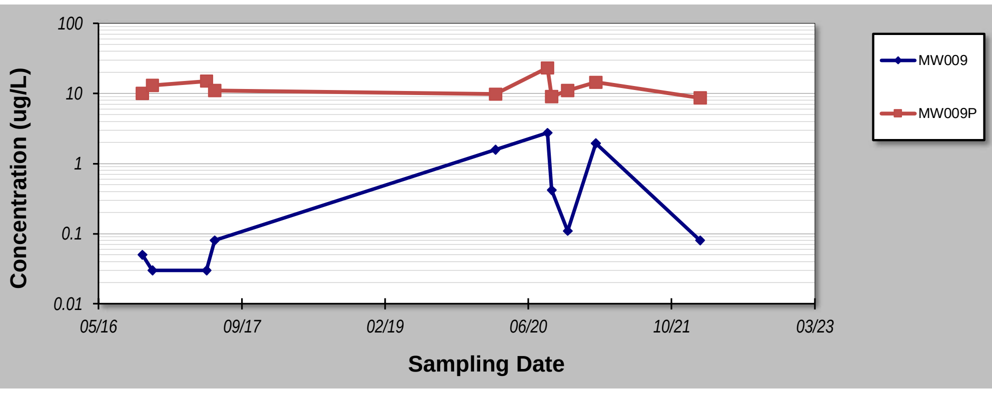
AECOM

Mann Kendall Analysis - Groundwater
FFTA (PFOA)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	18-Aug-23	Job ID:	60612562
Facility Name:	HMAS Albatross - FFTA	Constituent:	PFOA
Conducted By:	DDT	Concentration Units:	ug/L

Sampling Point ID:		MW009	MW009P					
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	10/10/2016	0.05	10					
2	14/11/2016	0.03	13					
3	22/05/2017	0.03	15					
4	19/06/2017	0.08	11					
5	24/02/2020	1.58	9.79					
6	24/08/2020	2.74	23.1					
7	7/09/2020	0.42	9					
8	2/11/2020	0.11	11					
9	8/02/2021	1.94	14.4					
10	7/02/2022	0.08	8.63					
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.42	0.35					
Mann-Kendall Statistic (S):		17	-8					
Confidence Factor:		92.2%	72.9%					
Concentration Trend:		Prob. Increasing	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.

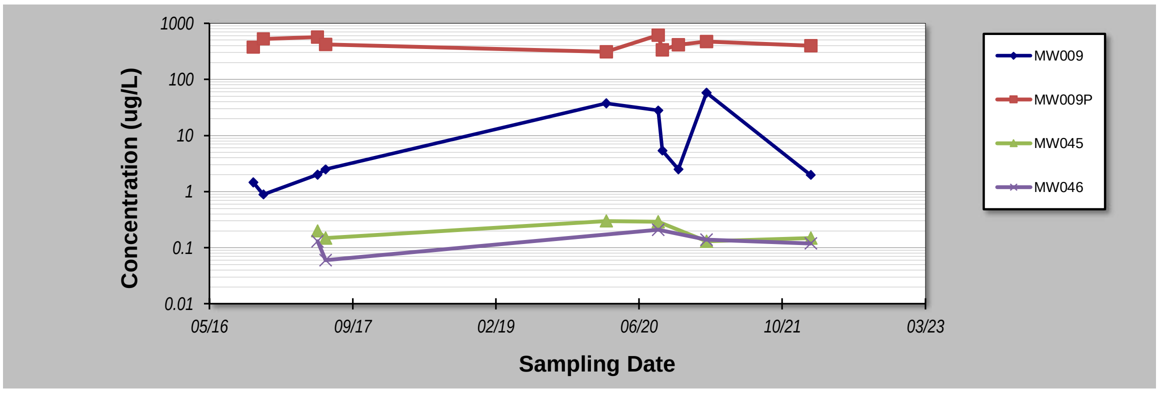
AECOM

Mann Kendall Analysis - Groundwater
FFTA (PFOS+PFHxS)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**18-Aug-23**	Job ID:	**60612562**
Facility Name:	**HMAS Albatross - FFTA**	Constituent:	**PFOS+PFHxS**
Conducted By:	**DDT**	Concentration Units:	**ug/L**

Sampling Event	Sampling Date	MW009	MW009P	MW045	MW046			
		PFOS+PFHXS CONCENTRATION (ug/L)						
1	10/10/2016	1.46	377					
2	14/11/2016	0.89	527					
3	22/05/2017	2.01	570	0.2	0.13			
4	19/06/2017	2.51	420	0.15	0.06			
5	24/02/2020	37.5	310	0.3				
6	24/08/2020	28	616	0.29	0.21			
7	7/09/2020	5.4	335					
8	2/11/2020	2.5	417					
9	8/02/2021	58	472	0.13	0.14			
10	7/02/2022	1.99	400	0.15	0.12			
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.35	0.23	0.37	0.41			
Mann-Kendall Statistic (S):		8	-8	-4	0			
Confidence Factor:		76.2%	76.2%	70.3%	40.8%			
Concentration Trend:		No Trend	Stable	Stable	Stable			



Notes:

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

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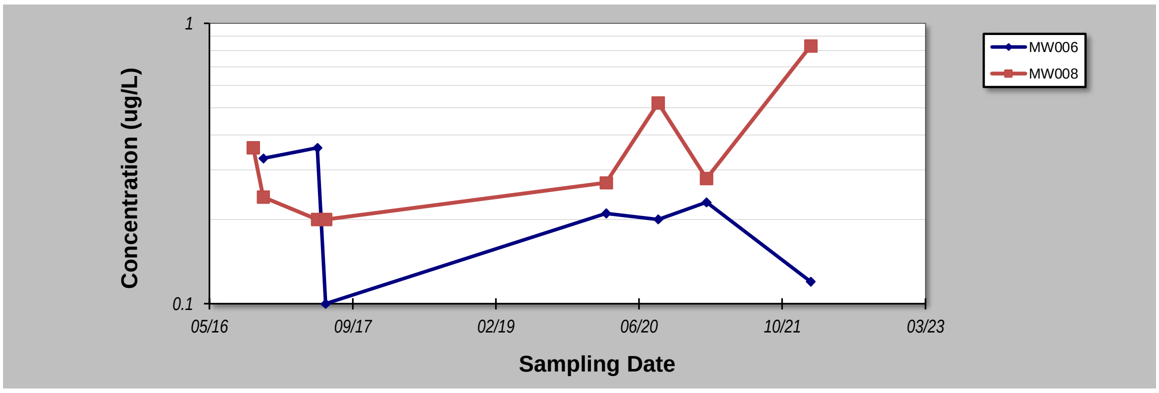
Mann Kendall Analysis - Groundwater
Former AFFF Exercise Area (PFOA)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 18-Aug-23
Facility Name: HMAS Albatross frmr AFFF exercise area
Conducted By: DDT

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

Sampling Point ID:		MW006	MW008					
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	10/10/2016		0.36					
2	14/11/2016	0.33	0.24					
3	22/05/2017	0.36	0.2					
4	19/06/2017	0.1	0.2					
5	24/02/2020	0.21	0.27					
6	24/08/2020	0.2	0.52					
7	8/02/2021	0.23	0.28					
8	7/02/2022	0.12	0.83					
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.44	0.60					
Mann-Kendall Statistic (S):		-7	11					
Confidence Factor:		80.9%	88.7%					
Concentration Trend:		Stable	No Trend					



Notes:

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

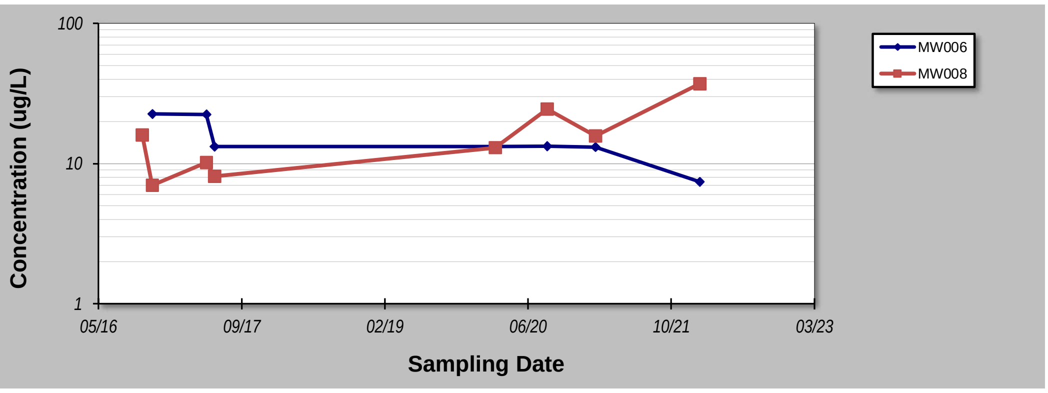
AECOM

Mann Kendall Analysis - Groundwater
Former AFFF Exercise Area (PFOS+PFHxS)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **18-Aug-23**
Facility Name: **HMAS Albatross frmr AFFF exercise area**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOS+PFHxS**
Concentration Units: **ug/L**

Sampling Point ID:		MW006	MW008					
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	10/10/2016		16					
2	14/11/2016	22.6	7					
3	22/05/2017	22.4	10.2					
4	19/06/2017	13.2	8.1					
5	24/02/2020	13.2	13					
6	24/08/2020	13.3	24.5					
7	8/02/2021	13.1	15.7					
8	7/02/2022	7.41	37					
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.37	0.61					
Mann-Kendall Statistic (S):		-16	14					
Confidence Factor:		99.0%	94.6%					
Concentration Trend:		Decreasing	Prob. Increasing					



Notes:

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

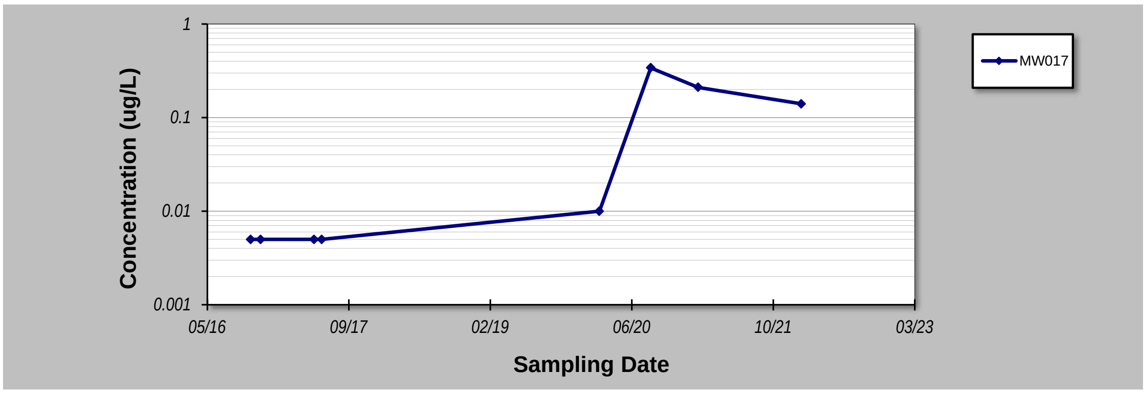
AECOM

Mann Kendall Analysis - Groundwater
STP Irrigation Area (PFOA)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 18-Aug-23
Facility Name: HMAS Albatross STP Irrigation Area
Conducted By: DDT
Job ID: 60612562
Constituent: PFOA
Concentration Units: ug/L

Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
Sampling Point ID:		MW017						
1	10/10/2016	0.005						
2	14/11/2016	0.005						
3	22/05/2017	0.005						
4	19/06/2017	0.005						
5	24/02/2020	0.01						
6	24/08/2020	0.34						
7	8/02/2021	0.21						
8	7/02/2022	0.14						
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.42						
Mann-Kendall Statistic (S):		16						
Confidence Factor:		96.9%						
Concentration Trend:		Increasing						



Notes:

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

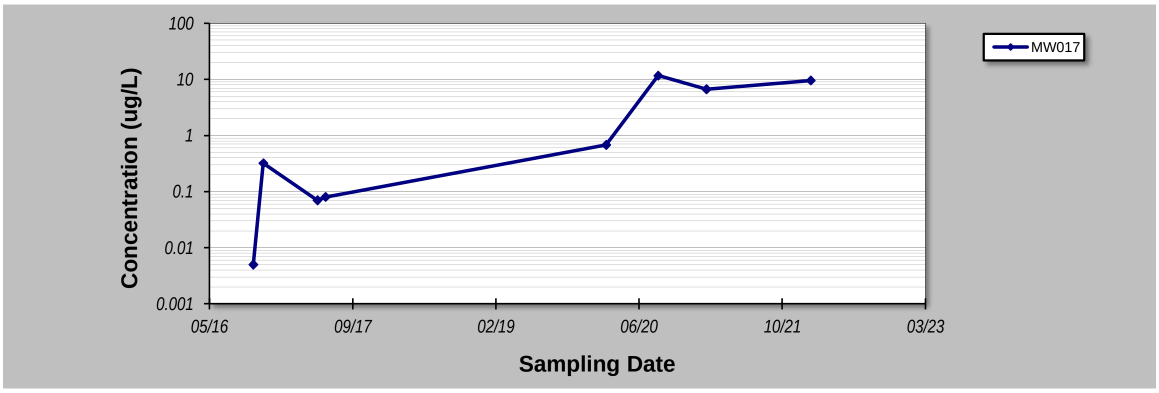
AECOM

Mann Kendall Analysis - Groundwater
STP Irrigation Area (PFOS+PFHxS)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **18-Aug-23**
Facility Name: **HMAS Albatross STP Irrigation Area**
Conducted By: **DDT**
Job ID: **60612562**
Constituent: **PFOS+PFHxS**
Concentration Units: **ug/L**

Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
Sampling Point ID:		**MW017**						
1	10/10/2016	0.005						
2	14/11/2016	0.32						
3	22/05/2017	0.07						
4	19/06/2017	0.08						
5	24/02/2020	0.68						
6	24/08/2020	11.7						
7	8/02/2021	6.7						
8	7/02/2022	9.56						
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**1.35**						
Mann-Kendall Statistic (S):		**20**						
Confidence Factor:		**99.3%**						
Concentration Trend:		Increasing						



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
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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

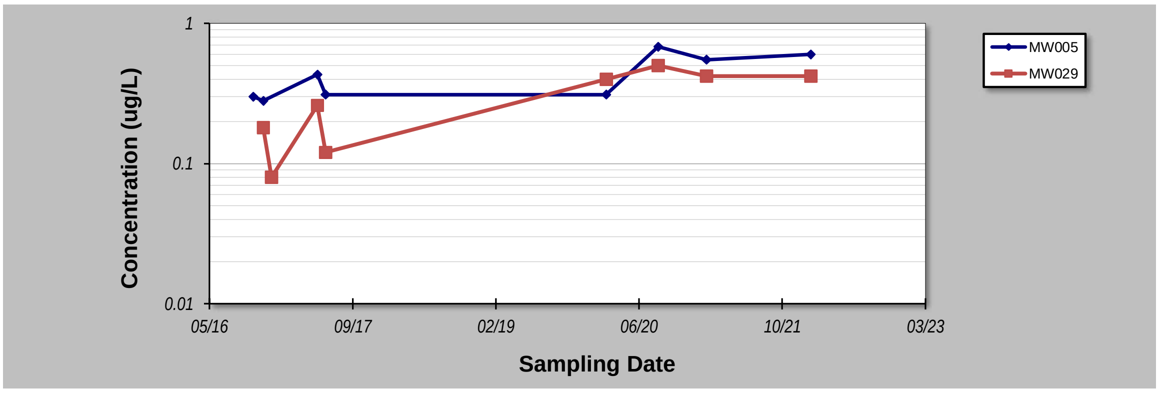
Mann Kendall Analysis - Groundwater
Easter Site Boundary (PFOA)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **18-Aug-23**
Facility Name: **HMAS Albatross - eastern site boundary**
Conducted By: **DDT**

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

Sampling Point ID:		MW005	MW029					
Sampling Event	Sampling Date	PFOA CONCENTRATION (ug/L)						
1	10/10/2016	0.30						
2	14/11/2016	0.28	0.18					
3	12/12/2016		0.08					
4	22/05/2017	0.43	0.26					
5	19/06/2017	0.31	0.12					
6	24/02/2020	0.31	0.40					
7	24/08/2020	0.68	0.50					
8	8/02/2021	0.55	0.42					
9	7/02/2022	0.60	0.42					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.36	0.53					
Mann-Kendall Statistic (S):		17	17					
Confidence Factor:		97.7%	97.7%					
Concentration Trend:		Increasing	Increasing					



Notes:

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

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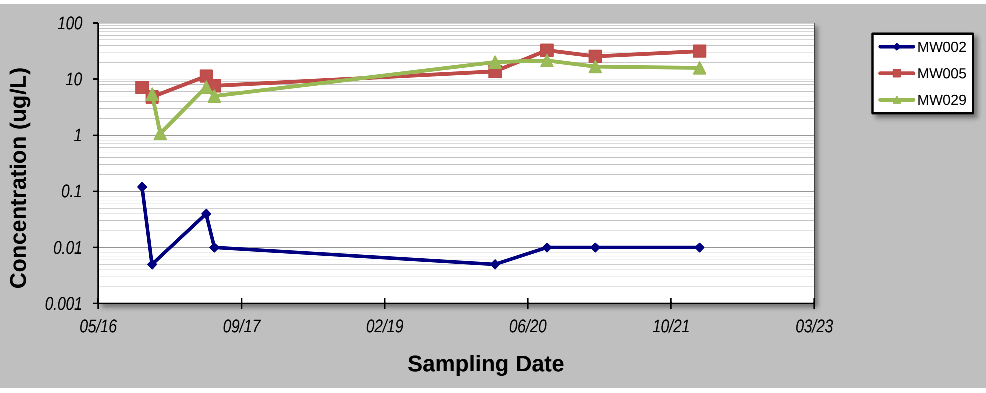
Mann Kendall Analysis - Groundwater
Eastern Site Boundary (PFOS+PFHxS)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **18-Aug-23**
Facility Name: **HMAS Albatross - eastern site boundary**
Conducted By: **DDT**

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

Sampling Point ID:		MW002	MW005	MW029				
Sampling Event	Sampling Date	PFOS+PFHXS CONCENTRATION (ug/L)						
1	10/10/2016	0.12	7.10					
2	14/11/2016	0.01	4.80	5.40				
3	12/12/2016			1.08				
4	22/05/2017	0.04	11.40	7.20				
5	19/06/2017	0.01	7.60	5.00				
6	24/02/2020	0.01	13.80	20.20				
7	24/08/2020	0.01	32.80	21.60				
8	8/02/2021	0.01	25.50	16.90				
9	7/02/2022	0.01	31.70	15.80				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.51	0.68	0.67				
Mann-Kendall Statistic (S):		-5	20	12				
Confidence Factor:		68.3%	99.3%	91.1%				
Concentration Trend:		No Trend	Increasing	Prob. Increasing				



Notes:

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

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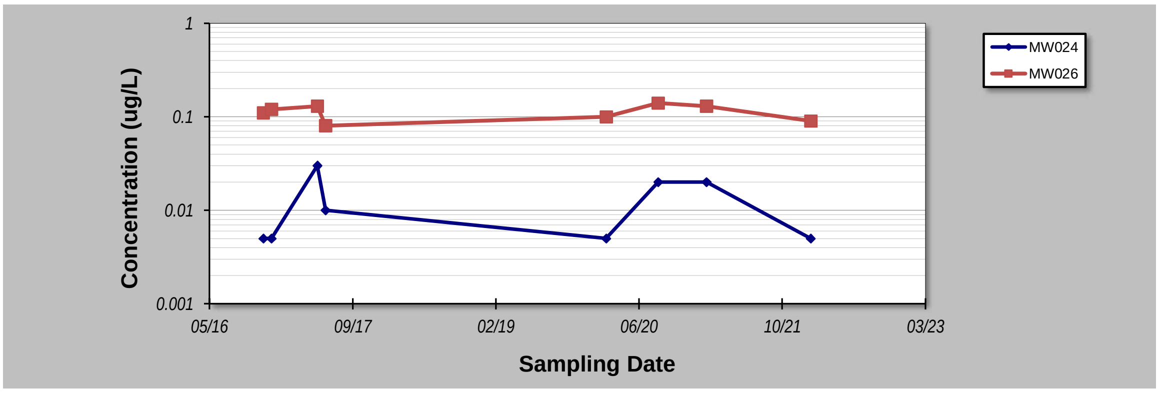
Mann Kendall Analysis - Groundwater
Off-Site Locations (PFOA)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	28-Sep-23	Job ID:	60612562
Facility Name:	HMAS Albatross - Off-Site Locations	Constituent:	PFOA
Conducted By:	DDT	Concentration Units:	ug/L

Sampling Event	Sampling Date	MW024	MW026					
		PFOA CONCENTRATION (ug/L)						
1	14/11/2016	0.01	0.11					
2	12/12/2016	0.01	0.12					
3	22/05/2017	0.03	0.13					
4	19/06/2017	0.01	0.08					
5	24/02/2020	0.01	0.10					
6	24/08/2020	0.02	0.14					
7	8/02/2021	0.02	0.13					
8	7/02/2022	0.01	0.09					
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.77	0.19					
Mann-Kendall Statistic (S):		3	1					
Confidence Factor:		59.4%	50.0%					
Concentration Trend:		No Trend	No Trend					



Notes:

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

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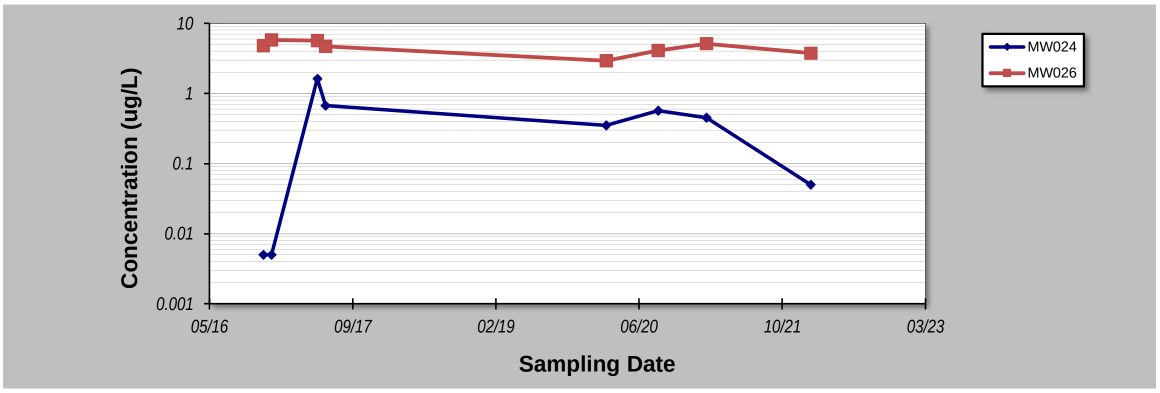
Mann Kendall Analysis - Groundwater
Off-Site Locations (PFOS+PFHxS)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 28-Sep-23 Job ID: 60612562
Facility Name: HMAS Albatross - Off-Site Locations Constituent: PFOS+PFHxS
Conducted By: DDT Concentration Units: ug/L

Sampling Event	Sampling Date	MW024	MW026					
	Sampling Point ID:	PFOS+PFHXS CONCENTRATION (ug/L)						
1	14/11/2016	0.01	4.80					
2	12/12/2016	0.01	5.80					
3	22/05/2017	1.62	5.70					
4	19/06/2017	0.67	4.70					
5	24/02/2020	0.35	2.93					
6	24/08/2020	0.57	4.09					
7	8/02/2021	0.45	5.14					
8	7/02/2022	0.05	3.75					
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
	Coefficient of Variation:	1.15	0.21					
	Mann-Kendall Statistic (S):	1	-12					
	Confidence Factor:	50.0%	91.1%					
	Concentration Trend:	No Trend	Prob. Decreasing					



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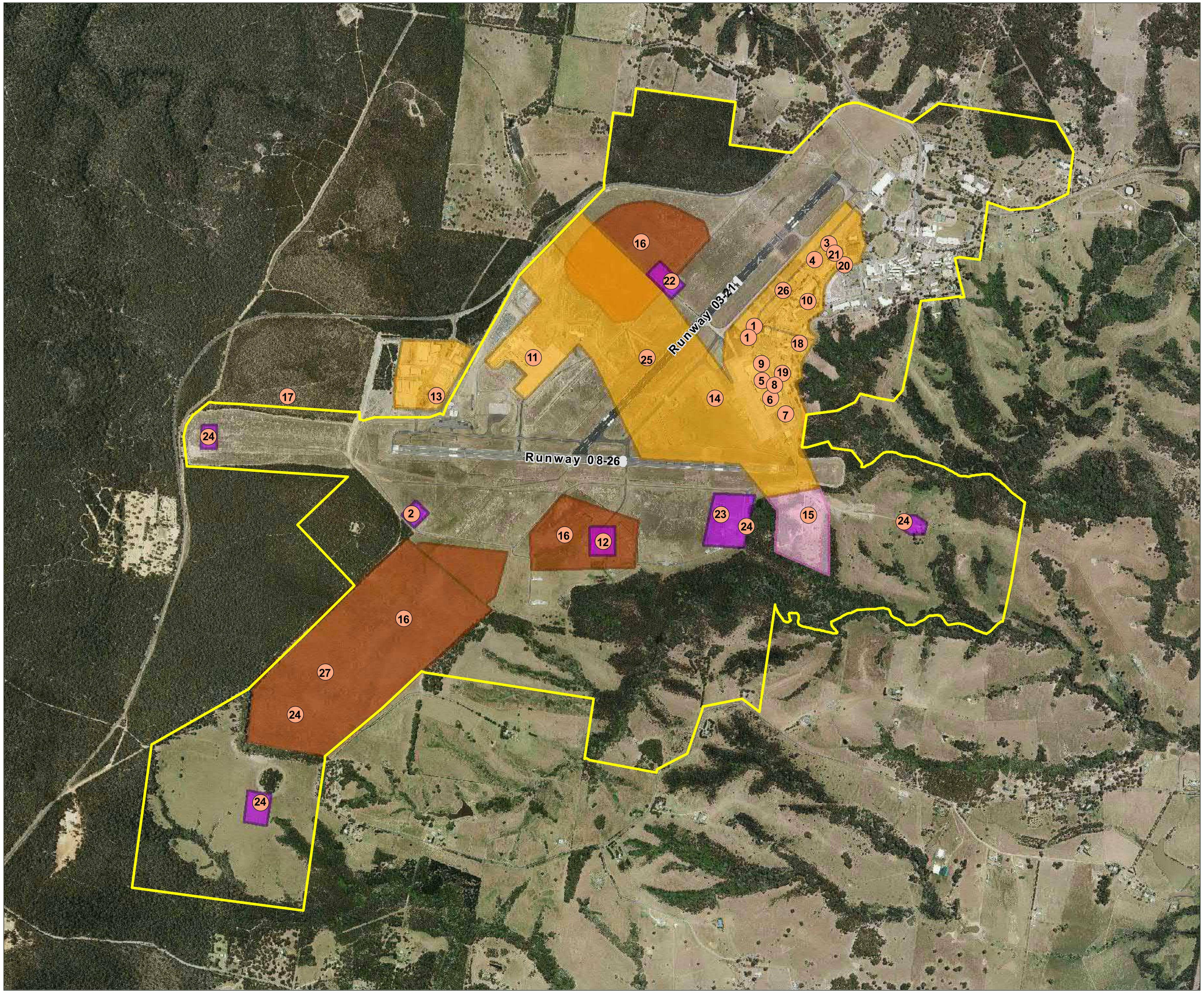
Appendix D

Aurecon Source Area and Sub-Catchment Figures



aurecon

Legend

HMAS Albatross site boundary
Potential sources

Key areas of concern

Former firefighting training areas
Hangars and flight lines, and associated activities
Sewage treatment plant (STP)
STP irrigation area

Key areas	Potential sources
Hangars, flight lines and associated activities	1. Fire station and suppression store
	3. Hangar A
	4. Hangar B
	5. Hangar K
	6. Hangar L
	7. Hangar J
	8. Hangar H (former)
	9. Hangar M (HATS)
	10. DNSDC
	11. ROMEO facility
	13. Albatross Aviation Technology Park
	14. Detention basin
	17. Skyhawk crash site
	18. Fuel farm and associated infrastructure (current)
	19. Fuel farm (former)
	20. Fire station (former)
	21. Storage and test area (dummy deck) (former)
	25. Hangar K AFFF spill (December 2014)
	26. Flight lines
Former firefighting training areas	2. Firefighting training area
	12. Flight deck procedural trainer area
	22. Firefighting training area (former)
	23. Engine test facility (former)
	24. AFFF exercise areas
STP	15. STP and effluent storage dam
STP irrigation areas	16. Effluent irrigation areas
	27. Parachute training area

Source: Imagery - Department of Defence (2015).

Date: 8/11/2017

Version: 1

A3 scale: 1:20,000

0 430 860 Metres

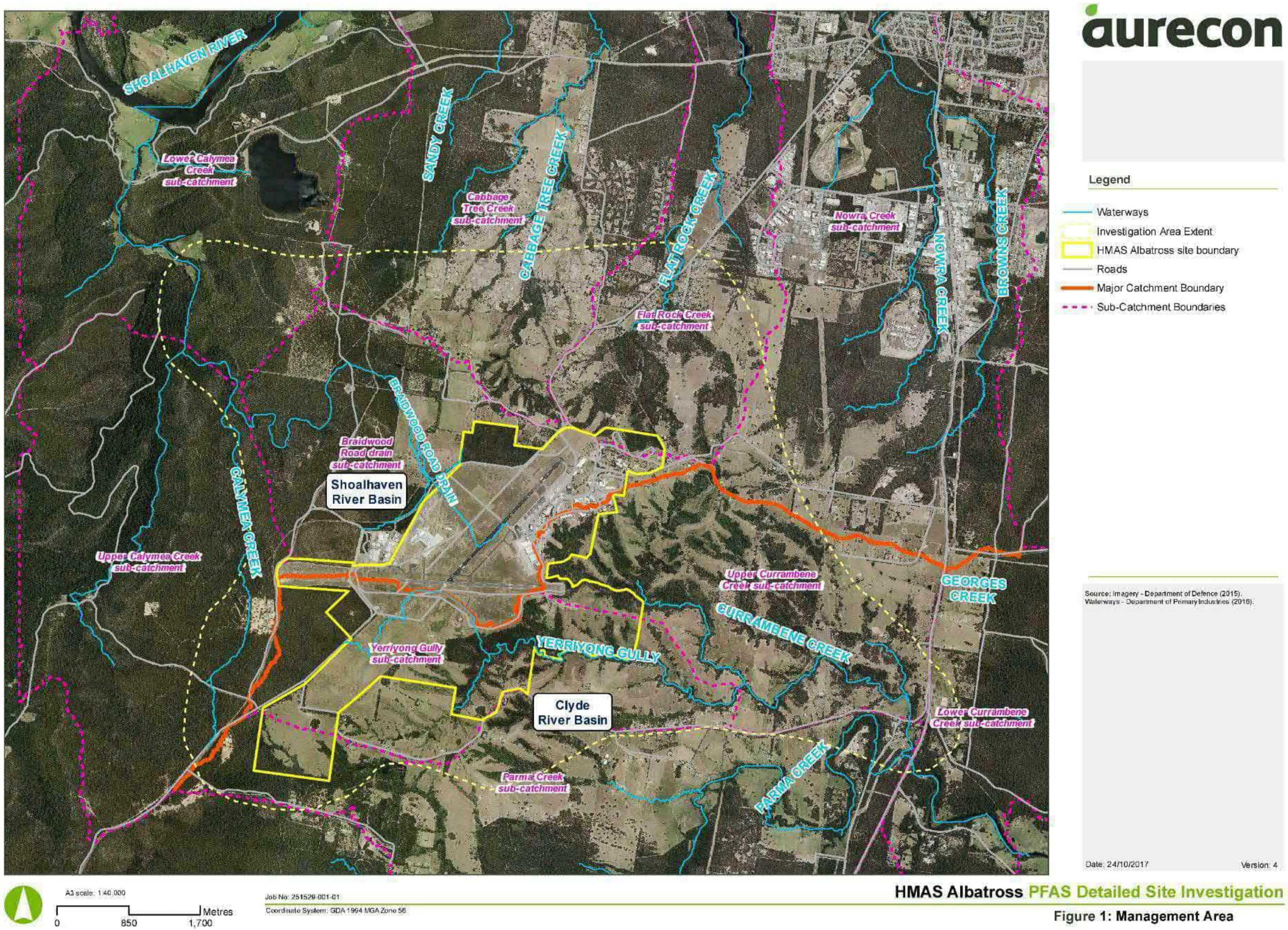
Job No: 251529-003-01

Coordinate System: GDA 1994 MGA Zone 56

HMAS Albatross PFAS Detailed Site Investigation

Figure 3.1: Key areas of concern

Figure 1 – Management area plan location



Appendix E

SAQP

Prepared for
Department of Defence
ABN: 68 706 814 312

DRAFT

AECOM

HMAS Albatross - Sampling and Analysis Quality Plan

PFAS OMP

02-Aug-2022
PFAS Ongoing Monitoring Program
Doc No. 20220118_OMP002_Albatross_SAQP_RevF

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Delivering a better world

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HMAS Albatross - Sampling and Analysis Quality Plan

PFAS OMP

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd
Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
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ABN 20 093 846 925

02-Aug-2022

Job No.: 60612562

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

DRAFT

Quality Information

Document HMAS Albatross - Sampling and Analysis Quality Plan

Ref 60612562

Date 02-Aug-2022

Prepared by [redacted]

Reviewed by

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	15-Nov-2019	Draft	[redacted]	
B	07-May-2020	Draft		
C	10-Nov-2020	Draft		
D	09-Mar-2021	Draft		
E	18-Jan-2022	Draft		
F	18-Jan-2022	Draft		
G	02-Aug-2022	Draft		

D R A F T

Table of Contents

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D R A F T

1.0 Introduction

1.1 Preamble

AECOM Australia Pty Ltd (AECOM) has prepared this Sampling and Analysis Quality Plan (SAQP) for the per- and poly-fluoroalkyl substance (PFAS) Ongoing Monitoring Program at **HMAS Albatross** (the 'Site') comprising the Site and the broader Management Area in the **NSW & JBT Region** (refer to **Figure 1** in **Appendix A**).

The SAQP supports the Ongoing Monitoring Plan presented in Appendix F of the *PFAS Management Area Plan – July 2019, HMAS Albatross* (Defence, 2019), here-in referred to as OMP (Defence, 2019).

The purpose of the OMP program is to collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, transport (migration pathways and rates) and transformation of PFAS in the Management Area. The OMP (Defence, 2019) aims to achieve the following:

- implement surface water and groundwater monitoring to assess the changes in the nature and extent (spatial and temporal) of PFAS concentrations on and off base, focussing where elevated risks have been identified in the PMAP and will need management.
- to collect further baseline data in groundwater and surface water, for comparison during and after remediation of hotspot/source areas to assess the success of the remediation and management methods.
- to monitor the migration of PFAS in groundwater from the site, particularly in groundwater flowing from the northern boundary, as recommended in the DSI (Aurecon 2017).
- conduct surface water monitoring to assess seasonal effects on water flow and PFAS concentrations, including during or immediately after extreme or high rainfall events.

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, 2019) throughout the initial three-year implementation period.

Note that this SAQP has been updated to reflect the deviations from the OMP (Defence, 2019) based on outcomes of monitoring completed to date. These deviations are presented in Table 11 in Section 4.15.

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

- groundwater sampling of 20 on-Site groundwater monitoring wells and eight off-Site groundwater monitoring wells biannually for the first 12 months of the program, with sampling interval reduced to annually for the remainder of the initial implementation period.
- surface water sampling at four on-Site surface water locations and nine off-Site surface water locations. The sampling will be undertaken quarterly for the first 12 months of the program, with the sampling interval reduced to biannually for the remainder of the initial implementation period.

- event sampling of four on-Site surface water locations and nine off-Site surface water locations during/immedicably following significant rain event within the initial 12-month implementation period (completed as of December 2020).
- reporting.

Note that deviations from the OMP (Defence, 2019) Scope of Works are presented in Table 11 in Section 4.15.

1.4 Guidelines and Legislation

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

- PFAS National Environmental Management Plan (NEMP) Version 2.0, Heads of Environmental Protection Agencies (HEPA), 2020.
- National Environment Protection (Assessment of Site Contamination) Measure (NEPM), National Environment Protection Council (NEPC), 2013.
- Department of Defence, Pollution Prevention Guideline – Annex 1L Routine Water Quality Monitoring. August 2019.
- Department of Defence, Contamination Management Manual, 2018 amended August 2019.
- Department of Health (DoH), Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017.
- National Health and Medical Research Council (NHMRC), Guidance on PFAS in Recreational Water. August 2019.
- Standards Australia 1998. AS/NZ 5667:1998 Water Quality – Sampling.
- Australian and New Zealand Guidelines, 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

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2.0 Site Identification

2.1 Site Details

The Site is the Royal Australian Navy's (RAN) only active airbase, and provides logistical support to the Fleet Air Arm. The Site features include:

- an airfield and associated buildings.
- operations, training, maintenance and administrative facilities.
- road verges are generally unpaved.
- surface drains and other water bodies on the Site and off-Site.

The Site is located in broader rural, agricultural and public open space (National Park and State Forest) setting.

In July 2019, Defence released the PMAP (Defence, 2019), which defines the following key areas that define the Management Area:

- the Site, comprising approximately 900 ha Commonwealth owned land.
- discrete residential properties off-site with surface water groundwater and soil containing PFAS.
- the Braidwood Road drain sub-catchment, Nowra Creek sub-catchment, Upper Currambine Creek sub-catchment and the Cabbage Tree Creek sub-catchment.

These areas are presented on **Figure 1** in **Appendix A**.

2.2 Conceptual Site Model

The Conceptual Site Model (CSM) is presented in the PMAP (Defence, 2019) which summarises the linkages between sources, exposure pathways and receptors.

Further assessment of risk exposure pathways are presented in the Human Health and Ecological Risk Assessment (HHERA) (Environmental Risk Sciences [EnRiskS], 2017) and the Addendum HHERA (EnRiskS, 2018).

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3.0 Data Quality Assessment

3.1 Data Quality Objectives

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

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

The process of establishing appropriate DQOs is defined according to the seven steps outlined in Table 1 below:

Table 1 The seven steps in defining DQOs

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

The approach adopted relative to the seven steps presented above is outlined in the OMP (Defence, 2019), and provided below:

3.1.1 Step 1 – State the Problem

Environmental investigations undertaken at the Site have identified PFAS in soil, sediment, surface water and groundwater primarily resulting from the historical use of aqueous film forming foam (AFFF) for fire protection purposes. The DSI (Aurecon, 2017) confirmed that the identified PFAS impacts in environmental media were not limited to within the Site boundary and appear to have migrated off-Site through a number of pathways.

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

The variability of PFAS flux is not well understood in surface water runoff leaving the Site and entering the receiving environment. The proposed time interval surface water monitoring (quarterly for the initial 12-month period, then biannually for the remainder of the contract period) is anticipated to provide an indication of PFAS concentrations during base flow conditions. The base flow condition data will be supplemented by event sampling data collected during or shortly after a significant rainfall event within the initial 12-month period.

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The data collected by implementing the SAQP will provide a periodic dataset that can be used to assist with assessment of temporal changes in PFAS concentrations in groundwater and surface water on- and off-Site.

This will facilitate if required refinement of the CSM, allow update of the human health and ecological risk assessment and inform management decisions by Defence and NSW EPA, and possibly other government agencies.

The OMP will cover the primary implementation period of the PMAP and continue after the response management has ended. This is the timeframe over which PMAP remediation actions (or other short-medium term actions) have been completed, and the monitoring following this period will be assessed with advice from NSW Government.

The OMP will also cover the extended implementation period to the extent required by specific characteristics of the Management Area and behaviour of the plume, measured against specified data trends.

3.1.2 Step 2 – Identify the Goal of the Study

The principle objectives of the ongoing monitoring plan are to:

- undertake surface water and groundwater monitoring to assess the changes in the nature and extent (spatial and temporal) of PFAS concentrations on and off base.
- collect further baseline data, for comparison during and after remediation of hotspot/source areas to assess the success of the remediation and management methods.
- monitor the migration of PFAS in groundwater from the site, particularly in groundwater flowing from the northern boundary.
- conduct surface water monitoring to assess seasonal effects on water flow and PFAS concentrations, including during or immediately after extreme or high rainfall events.

Furthermore, the specific questions that the study intends to address are as follows:

- What are the changes and trends in the nature, extent and magnitude of PFAS concentrations in groundwater, surface water and sediment within the Management Area?
- Has the nature, extent or magnitude of PFAS concentrations within the Management Area changes significantly to warrant a revision of the CSM and/or the HHERA?
- Has the nature, extent or magnitude of PFAS concentrations changes significantly to warrant refinement of any existing or proposed management measures?

3.1.3 Step 3 – Identify Information Inputs

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

- Objectives and scope of works of this plan.
- Findings from the DSI, HHERA and HHERA Addendum.
- CSM, including potential sources, pathways and receptors.
- Contaminants of concern (PFAS).
- Field methods, such as sampling, sample storage and preservation, laboratory methods, quality control (QC) and quality assurance (QA).
- Media to be sampled (surface water and groundwater samples), and location of samples.
- Adopted assessment criteria for surface water and groundwater.
- Statistical analysis of data to identify trends.
- Field data (including water quality parameters and visual/olfactory observations) and laboratory analysis.

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3.1.4 Step 4 – Define the Boundaries of the Study

The ongoing monitoring plan comprises sampling locations within HMAS Albatross and off site to assess variation in PFAS concentrations over time and to measure the success of the remediation and management methods. The groundwater and surface water sampling locations are detailed in **Table 4** and **Table 5** respectively. It is noted that all proposed sampling locations, with the exception of surface water locations SW001 and SW04B, are located within the Management Area, as defined in the PMAP (Defence, 2019a).

The SAQP will also cover the primary implementation period of the OMP (Defence, 2019b) and PMAP (Defence, 2019a) and continue after the response management has ended. This is the timeframe over which the PMAP remediation actions (or other short-medium term actions) have been completed, and the monitoring following this period will be assessed with advice from the NSW Government.

The SAQP will also cover the extended implementation period to the extent required by specific characteristics of the Site and surrounds, and behaviour of the plume, measured against specified data trends.

3.1.5 Step 5 – Develop the Analytical Approach

The decision rules can be defined as:

- All samples analysed for the full PFAS suite and suitability of data assessed to ensure the laboratory QA/QC is within acceptable ranges.
- Comparison of PFAS concentrations in surface water and groundwater against the drinking water and recreational water health-based guideline values and the ecological guideline values.
- Comparison of PFAS concentrations in surface water and groundwater against previous results to determine any temporal or spatial trends or variations in concentrations.

Assessment of any trends (such as temporal or seasonal trends) may inform decision making to consider whether further monitoring may be reduced or continued following the initial implementation period.

The decision on the acceptance of analytical data should be made on the basis of data quality indicators (DQIs) as detailed in **Table 2**.

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

Acceptance limits on field and laboratory data collected for this investigation will be in accordance with NEPM 2013 and the NEMP 2018.

The acceptable limits on decision errors to be applied in the investigation and the manner of addressing possible decision errors have been developed based on the (DQIs) of precision, accuracy, representativeness, comparability and completeness.

The potential for significant decision errors will be minimised by completing a robust QA/QC program and by completing an investigation that has an appropriate sampling and analytical density for the purposes of the investigation.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

The monitoring plan 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 (i.e. groundwater monitoring well sampling versus landholder bore water sampling). These standards are as follows:

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- 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 (Defence, 2019). Updating the CSM as new data becomes available in the course of the implementation of the OMP (Defence, 2019), 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 three-year primary implementation period.

3.2 Assessment of Data Quality

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

- Documentation and data completeness; 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 based on those outlined in Table F-4 of the OMP (Defence, 2019) and are provided in **Table 2**.

Table 2 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
Water Samples	
Field Program	Sampling to be completed by suitably qualified and experienced field teams employing appropriate sampling procedures.
Rinsate blank samples (where sampling equipment is reused)	Rinsate blanks are to be collected at a rate of one per day of sampling with concentrations of PFAS to be less than the laboratory LOR.
Field duplicates/Inter-lab duplicates	Field duplicates and inter-laboratory duplicates are to be collected and analysed at a rate of 10% (1 per 10 primary samples). The 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%; and • Heterogeneous materials are encountered.

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Data Quality Indicators	Acceptance Criteria
Laboratory duplicates	RPDs less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR); and • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR).
Matrix spikes	Recoveries between 70-130% of the theoretical recovery or as nominated in the laboratory's QC report, based on their historical database.
Method blanks	Less than the laboratory LOR.
Laboratory control samples	Recoveries between laboratories specified range for each particular analyte/analytical suite.

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4.0 Sampling Location Rationale and Methodology

4.1 OMP

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

4.2 Proposed Schedule

4.2.1 Quarterly, Bi-annual and Annual Sampling

The OMP (Defence, 2019) outlines the monitoring, as follows:

- During the initial 12-month monitoring period, surface water monitoring will be completed on a quarterly basis and groundwater will be undertaken on a bi-annual basis.
- Following the initial 12-month period, surface water sampling will be undertaken on a bi-annual basis and groundwater will be sampled annually.

The initial quarterly surface water sampling round was completed in November 2019, with the initial groundwater monitoring event undertaken in February 2020.

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

Table 3 Proposed Fieldwork Schedule

Sampling Round No.	Description of works	Proposed Schedule
1	Quarterly surface water sampling	November 2019 (Completed)
2	Bi-annual groundwater and Quarterly surface water sampling	February 2020 (Completed)
3	Quarterly surface water sampling	May 2020 (Completed)
4	Bi-annual groundwater and Quarterly surface water sampling	August 2020 (Completed)
5	Annual groundwater and Bi-annual surface water sampling	February 2021 (Completed)
6	Bi-annual surface water sampling	August 2021 (Completed)
7	Annual groundwater and Bi-annual surface water sampling	February 2022
8	Bi-annual surface water sampling	August 2022
9	Annual groundwater and Bi-annual surface water sampling	February 2023
10	Bi-annual surface water sampling	August 2023
11	Annual groundwater and Bi-annual surface water sampling	February 2024

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4.2.2 Event Sampling

In addition to the scheduled sampling outlined in **Section 4.2.1**, surface water samples were collected during or immediately after extreme or high rainfall events to capture the 'first flush' rainfall on up to three occasions during the first 12-month monitoring period.

The Bureau of Meteorology (http://www.bom.gov.au) reports that the average monthly rainfall recorded at the Nowra Royal Australian Navy Air Station (Station No. 068072) is 75.8 mm. Therefore, an "extreme or high rainfall event" is defined as a cumulative rainfall total of greater than 40 mm (>50% the monthly average rainfall) within a single 24-hour period.

4.3 Sample Location Rationale

4.3.1 Groundwater Sampling Locations

The OMP (Defence, 2019) states that these monitoring locations were determined based on the following:

- locations that will provide sufficient coverage to assess PFAS movement/variations on and off-site
- locations where groundwater flows from known sources of PFAS to sensitive receptors
- where existing monitoring locations and data points are present.

The groundwater locations to be monitored during the bi-annual and annual events 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 (Defence, 2019) have been updated to comply with Defence Contamination Management Manual (DCMM) nomenclature requirements. A table presenting the former and current location ID's is presented in **Appendix B**.

Table 4 Groundwater Sample Locations

Area	Location ID	Easting	Northing	Elevation (m AHD)	Sub-catchment	Total
On Site	MW001	276547.2	6130951	117.0	Braidwood Road drain sub-catchment	20
	MW002	276395.8	6130918	114.0	Braidwood Road drain sub-catchment	
	MW003	276814	6130475	112.0	Upper Currambene Creek sub-catchment	
	MW004	277645.7	6131448	144.0	Flat Rock Creek sub-catchment	
	MW005	276316.5	6130164	99.0	Upper Currambene Creek sub-catchment	
	MW006	276207	6129457	77.0	Yerriyong Gully sub-catchment	
	MW008	275959.9	6129546	105.0	Yerriyong Gully sub-catchment	
	MW009	274324.6	6129628	117.0	Yerriyong Gully sub-catchment	
	MW009_P	274323.8	6129630	117.0	Yerriyong Gully sub-catchment	

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Area	Location ID	Easting	Northing	Elevation (m AHD)	Sub-catchment	Total
	MW012	274934	6130645	104.0	Braidwood Road drain sub-catchment	
	MW012_P	274932.6	6130642	104.0	Braidwood Road drain sub-catchment	
	MW015	274549	6129141	119.0	Yerriyong Gully sub-catchment	
	MW016	273692.6	6128565	126.0	Yerriyong Gully sub-catchment	
	MW017	274991.4	6129627	112.0	Yerriyong Gully sub-catchment	
	MW029	276378	6130609	110.0	Upper Currambene Creek sub-catchment	
	MW037	277349.1	6131391	135.0	Flat Rock Creek sub-catchment	
	MW038	277293.7	6129484	86.0	Upper Currambene Creek sub-catchment	
	MW039	275431.8	6128747	75.0	Yerriyong Gully sub-catchment	
	MW045	273973.7	6129819	124.2	Yerriyong Gully sub-catchment	
	MW046	274016.5	6129306	123.0	Yerriyong Gully sub-catchment	
Off-site Road Reserve	MW018	274921	6131092	101.0	Braidwood Road drain sub-catchment	4
	MW044	276133.8	6131428	53.0	Yerriyong Gully sub-catchment	
	MW072	275445.00	6132023.00		Cabbage Tree Creek sub-catchment	
	MW073	276432.00	6131929.00		Cabbage Tree Creek sub-catchment	
Off-site Private Property	MW024	[redacted]	[redacted]	97.0	Braidwood Road drain sub-catchment	**4**
	MW026	[redacted]	[redacted]	32.0	Upper Currambene Creek sub-catchment	
	MW031	[redacted]	[redacted]	103.0	Braidwood Road drain sub-catchment	
	MW032	[redacted]	[redacted]	64.0	Upper Currambene	

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Area	Location ID	Easting	Northing	Elevation (m AHD)	Sub-catchment	Total
					Creek sub-catchment	

Note: * This location is a residential bore.

Off-Site private property monitoring locations will require the agreement of the landholder/leaseholder.

4.3.2 Surface Water Sampling Locations

The OMP (Defence, 2019) states that the surface water monitoring locations have been selected based on the following:

- Surface water bodies (creeks/drains) where surface water flows are known to flow from Site.
- Surface water bodies where groundwater is known to have intercepted creeks as a spring.
- Where existing monitoring locations and points are present.

The locations to be monitored during the annual and bi-annual events are provided in **Table 5** below and are presented on **Figure 3** (in **Appendix A**).

Table 5 Surface Water Sampling Locations

Area	Location ID	Easting	Northing	Surface Water Body	Total
On Site	SW007	274962.3	6131014	Braidwood Road drain	4
	SW009	276181.1	6129485	Yerriyong Gully	
	SW012	277223.1	6128991	Yerriyong Gully	
	SW018	275199.1	6130736	Braidwood Road drain	
Off Site	SW001	276777.5	6136090	Cabbage Tree Creek	9
	SW002	277762.3	6133532	Flat Rock Creek	
	SW004B	271827.1	6132552	Calymea Creek	
	SW005	273155.4	6131487	Braidwood Road drain	
	SW006	274908.3	6131095	Braidwood Road drain	
	SW008	277426.6	6129652	Currambene Creek	
	SW013	280564	6128242	Parma Creek	
	SW014	280483.3	6127827	Parma Creek	
	SW020	274735.1	6130823	Braidwood Road drain	

4.4 Sample Collection and Handling

4.4.1 Groundwater Sampling

The groundwater sampling methodology and schedule are presented in **Table 6**.

Table 6 Groundwater Sampling Methodology and Schedule

Item	Details
Groundwater gauging	The depth to groundwater will be measured in each monitoring well prior to collection of groundwater samples.

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Item	Details
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 24 hours prior to sampling for the initial sampling round. Once sampling is completed, new HydraSleeves™ will be deployed at the screened interval depth in preparation for the next scheduled sampling round. Hydrasleeve sampling will be completed in accordance with the manufacturer's guidance. In the event that a HydraSleeve fails to deploy or has been removed inadvertently (i.e. by non-OMP project), the sample will be collected using a dedicated, disposable bailer.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and rinsate blank samples.
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), ORP (oxidation-reduction potential), pH and observations of water quality will be recorded for all samples, including: • Physical indicators such as the presence (and percentage) 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 PFAS extended suite using the standard levels of detection.
Sampling Schedule	The monitoring will include two bi-annual monitoring events and two annual monitoring events at 28 groundwater well locations.

4.4.2 Surface Water Sampling

Table 7 provides the surface water sampling methodology and schedule.

Table 7 Surface Water Sampling Methodology and Schedule

Item	Details
Sample Collection Methodology	Samples to be collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container should be lowered into the water with the cap immediately applied once the container is full.
QA/QC Samples to be Collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and rinsate samples.
Field Parameters	Temperature, Electrical Conductivity (EC), DO, ORP (oxidation-reduction potential), pH and observations of water quality will be recorded for all samples.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.
Sampling Schedule	The monitoring will include four quarterly monitoring events and three bi-annual monitoring events at the selected 13 locations.

4.4.3 Sample Handling and Transport to Laboratory

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

All samples will be kept chilled during transit to the laboratory. Prior to sampling, assessment of the analytical holding times will be made and the sampling planned accordingly to ensure that holding times are not breached or minimised.

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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 ALS. The inter-laboratory duplicate samples will be analysed by Envirolab Services Pty Ltd (Envirolab).

4.5 Calibration

The water quality meter will be calibrated each day prior to the commencement of field activities with relevant solutions, including pH, EC and ORP. The calibration will be in accordance with manufacturers' instructions or 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 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 primary samples will be transported by an ALS supplied courier at the completion of fieldwork. All inter-laboratory duplicate samples will be couriered directly to the secondary laboratory under a separate CoC for analysis.

4.7 Analytical Suite and Laboratory Analysis Methods

4.7.1 Laboratory NATA Accreditation Details

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

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

4.7.2 Analytical Schedule

All media sampled shall be analysed for the extended PFAS suite in accordance with the Defence (2018) *Standard PFAS Analytical Suite* Guidance Document (**Appendix C**).

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

Table 8 Laboratory Limits of Reporting

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

LC/MS-MS = Liquid chromatography–mass spectrometry, GC = Gas chromatography

*LOR for Australian Laboratory Services (ALS)

4.8 Sample Nomenclature

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

PPPP_XX000_ZZZ_YYMMDD

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

e.g. 0026_MW001_191015

Location types and codes are prescribed by the Defence Contamination Management Manual, Annex L Data Management (August 2019) and the Site's investigation history.

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

- MW = monitoring well

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- SW = surface water - no depth required.

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

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

4.9 Defence ESdat Requirements

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

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

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

4.10 Adopted Screening Criteria

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

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

- PFAS National Environmental Management Plan (NEMP), (HEPA 2018) https://www.epa.vic.gov.au/for-community/environmental-information/land-groundwater-pollution/pfas-national-environmental-management-plan
- Department of Health (DoH), 2017. Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017 (FSANZ 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC 2019).
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM).

The adopted PFAS screening criteria to assess the data generated as part of the SAQP are presented in **Table 9**.

4.10.1 PFAS Screening Criteria

The adopted screening criteria which have been adopted are presented in Table 9 and Table 10 below.

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Table 9 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Drinking water - groundwater	PFOS + PFHxS	0.07 µg/L	The values presented in the PFAS NEMP, 2018 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. For PFHxS, DoH 2017 noted that '*FSANZ concluded that there was not enough toxicological and epidemiological information to justify establishing a tolerable daily intake. However, as a precaution, and for the purposes of site investigations, the PFOS tolerable daily intake should apply to PFHxS. In practice, this means that the level of PFHxS exposure should be added to the level of PFOS exposure; and this combined level be compared to the tolerable daily intake for PFOS*'. *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. *All surface water results will be compared to these criteria.*
	PFOA	10 µg/L	

Table 10 PFAS criteria summary: Ecological

Media	Pathway	Chemical	Criteria	Comment/Reference
Water	Freshwater	PFOS	0.00023 µg/L	HEPA (2018) NEMP 99% species protection
		PFOA	19 µg/L	HEPA (2018) NEMP 99% species protection

Note: HEPA (2018) notes that the 99% species protection level for PFOS is close to the level of detection. Agencies may wish to apply a 'detect' threshold in such circumstances rather than a quantified measurement.

4.11 Waste Management

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

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

4.12 Quality Assurance/Quality Control Sampling

4.12.1 Field Duplicate and Inter-laboratory Duplicate Samples

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

4.12.2 Rinsate Samples

Rinsate samples are to be collected at a rate of one sample per fieldwork day by pouring laboratory supplied deionised water over the decontaminated sampling equipment.

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4.13 Fieldwork Documentation

4.13.1 Field Notes

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

- Groundwater Samples –the observed characteristics of the sample (e.g. colour, turbidity, odour, sheen) and reported field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded at regular intervals;
- Surface Water Samples – the observed characteristics of the sample (e.g. colour, turbidity, odour, sheen) and field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded; and
- The geo-coordinates for each sample location will be noted. The quality control (e.g. duplicate and inter-laboratory duplicate) sample details will also be recorded.

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

4.13.2 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; and
- Filtered vs non-filtered (for water samples only).

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

AECOM will utilize the tablet based EDCA tool to streamline sample labelling and CoC creation to ensure compliant sample IDs are used in the field.

4.13.3 Chain of Custody Forms

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

The CoC form will include the following information:

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

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

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

4.13.4 Sampling Documentation

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

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

Records of all equipment calibration will be included in the reports for each sampling round.

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 include:

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

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

DRAFT

4.14.2 Annual Interpretive Report

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

- evidence of compliance with the requirements of the SAQP and meeting stated objectives of the OMP (Defence, 2019a).
- relevant figures depicting sampling locations and site-specific hydrogeological features.
- laboratory results and analysis including comparison with relevant screening criteria as identified in the OMP (Defence, 2019a).
- assessment and commentary on appropriate QA/QC procedures.
- a review of the Conceptual Site Model and provision of a revised Conceptual Site Model, if required.
- data interpretation, including trends in groundwater concentration, gradient and flow directions.
- assessment of statistically based trends that may inform decision making when it comes to the revision of the OMP (Defence, 2019a).
- a statement as to whether the risk profile has changed overall, or for any specific location at the Site, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.

4.15 Deviations from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP (Defence, 2019a), a number of points of deviation are noted (refer to **Table 11** below).

Table 11 Deviations from OMP

No.	Description	Rationale
1	Adoption of Revised Recreational Screening Criteria for PFOS+PFHxS and PFOA	Following the release of the OMP (Defence, 2019a) in August 2019, 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 9**.
2	Surface water sampling methodology	While the OMP (Defence, 2019) states that surface water samples shall be collected from the water surface, AECOM proposes to collect surface water samples from beneath the water surface to minimise the collection of sediment or other floating materials.
3	Surface water and groundwater sample location IDs	AECOM has renamed the proposed surface water and groundwater sampling locations presented in the OMP (Defence, 2019) to comply with DCMM Nomenclature requirements. The new location IDs are presented in the SAQP text and figures. **Table T1** in **Appendix B** presents the list of new location ID's against historical IDs.
4	Reporting Requirements	It is noted that the reporting requirements outlined the OMP (Defence, 2019) are superseded by the Reporting requirements outlined in the OMP Order.

DRAFT

No.	Description	Rationale
5	Sampling Locations Omitted from OMP Figure F1	It is noted that monitoring locations MW018, MW024, MW026, MW031, MW034, MW036, MW040 and MW047 are listed in Table F-7 of the OMP as proposed sampling locations, however they appear to have been omitted from OMP Figure F1 – Proposed Sampling Locations. AECOM considers the omission of these locations from Figure F1 is likely to be an oversight, and is proposing to sample them as part of the OMP
6	Changes to groundwater sampling locations	Based on the summary from the Sampling Event Factual Report (August 2020), two groundwater monitoring wells (MW014 and MW040) were inaccessible. As agreed with Defence, MW014 has been removed from the program and MW040 has been replaced with MW041. This is reflected in **Table 4** and **Figure F2** (**Appendix A**).
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.
8	Changes to groundwater sampling locations	Following consultation with the Lead Consultant, the 2021 Annual Interpretive Report (AECOM, 2022) recommended the removal of groundwater sampling locations MW034, MW036, MW041 and MW047 from the OMP as groundwater in these locations is either not hydraulically connected to the Site, or concentrations of PFAS have consistently been below the laboratory LOR. These locations have therefore been removed from the SAQP.
9	QAQC Sampling Ratios	The proposed QA/QC sampling ratios for intra-laboratory and inter-laboratory duplicates has been revised to be 1 per 10 primary samples to align with NEMP 2.0 (HEPA, 2020) requirements.

D R A F T

5.0 References

AECOM, 2020a. *Sampling Event Factual Report, December 2019 PFAS OMP – HMAS Albatross* Rev 0 dated 13 May 2020

AECOM, 2020b. *Rain Sampling Event Factual Report, February 2020 PFAS OMP – HMAS Albatross* Rev 0 dated 13 May 2020

AECOM, 2020c. *Sampling Event Factual Report, February 2020 PFAS OMP – HMAS Albatross* Rev 0 dated 27 May 2020

AECOM, 2020d. *Sampling Event Factual Report, May 2020 PFAS OMP – HMAS Albatross* Rev 0 dated 10 July 2020

AECOM, 2020e. *Rain Sampling Event Factual Report, July 2020 PFAS OMP – HMAS Albatross* Rev 0 dated 28 August 2020

AECOM, 2020f. *Sampling Event Factual Report, August 2020 PFAS OMP – HMAS Albatross* Rev 0 dated 5 November 2020

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AECOM, 2021a. *Annual Interpretive Report - 2020 PFAS OMP – HMAS Albatross* Rev D dated 26 October 2021

AECOM, 2021b. *Sampling Event Factual Report, February 2021 PFAS OMP – HMAS Albatross* Rev 0 dated 19 April 2021

AECOM, 2021c. *Sampling Event Factual Report, August 2021 PFAS OMP – HMAS Albatross* Rev 0 dated 5 November 2021

AECOM, 2022. *Annual Interpretive Report - 2021 PFAS OMP – HMAS Albatross* Rev B dated 27 January 2022

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

ASC NEPM, 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*.

ASC NEPM, 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*.

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Department of Defence, 2019. *Pollution Prevention Guideline – Annex 1L Routine Water Quality Monitoring.* August 2019

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enHealth, 2012b. *Australian Exposure Factor Guide. Department of Health and Ageing*.

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D R A F T

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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) 2018. *PFAS National Environmental Management Plan*. January 2018

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

Standards Australia (AS 4482.2-1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances*

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

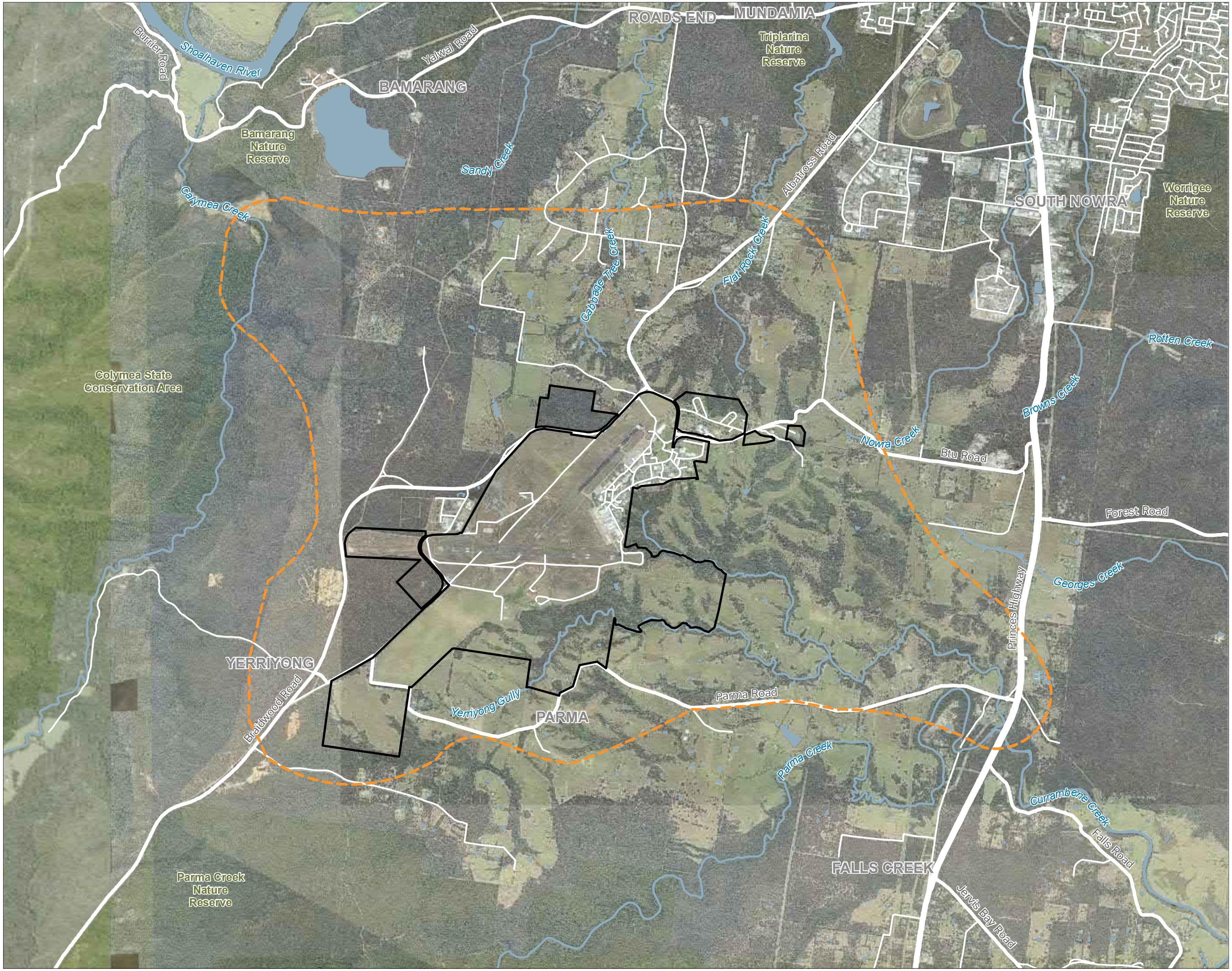
Standards Australia 1998. AS/NZ 5667:1998 *Water quality – sampling*

Appendix A

Figures

D R A F T

Appendix A Figures



AECOM

m
0 600 1,200

Legend

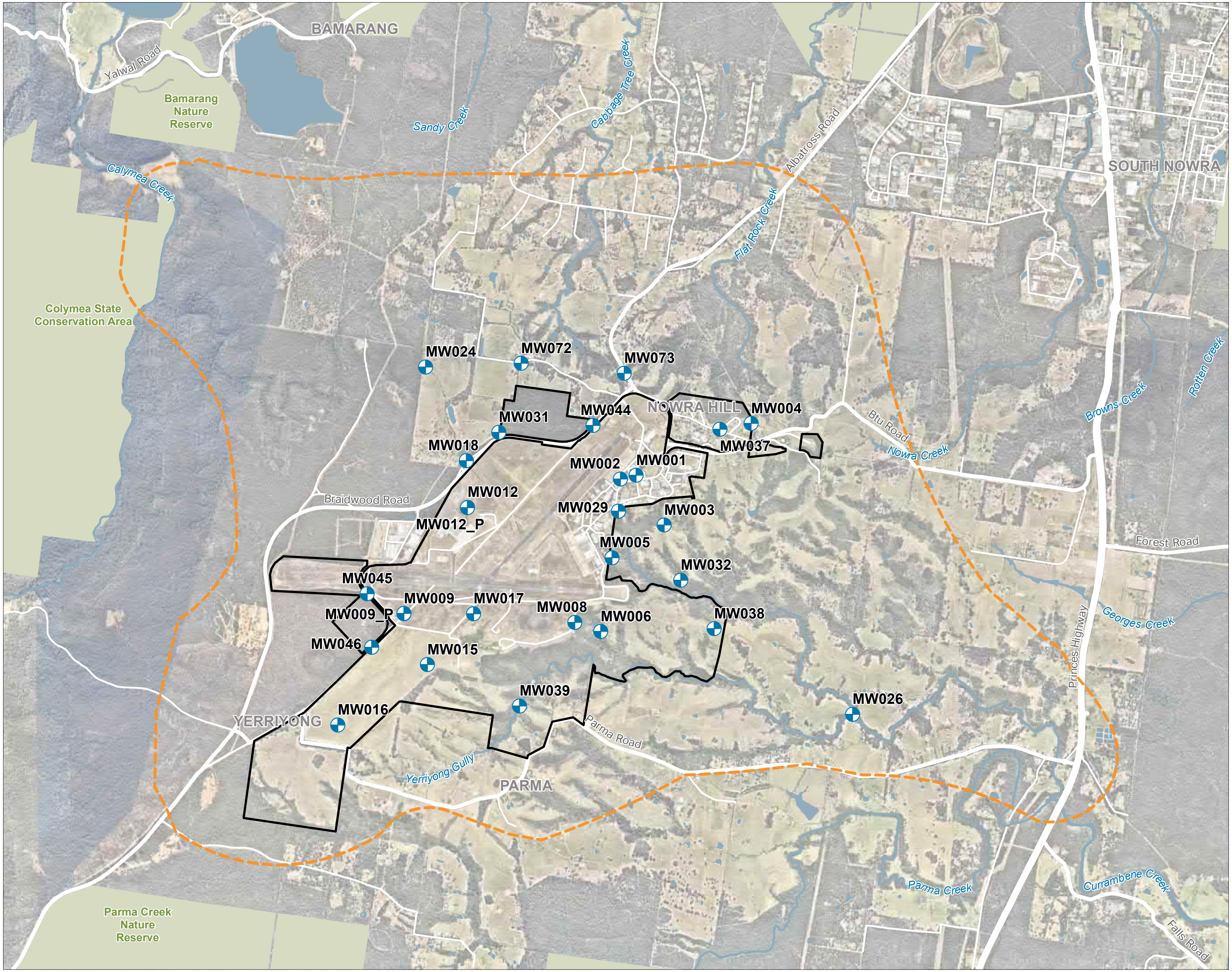
Site Boundary

Management

FIGURE 1:
MANAGEMENT AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report – HMAS Albatross (0026) - December 2019
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019



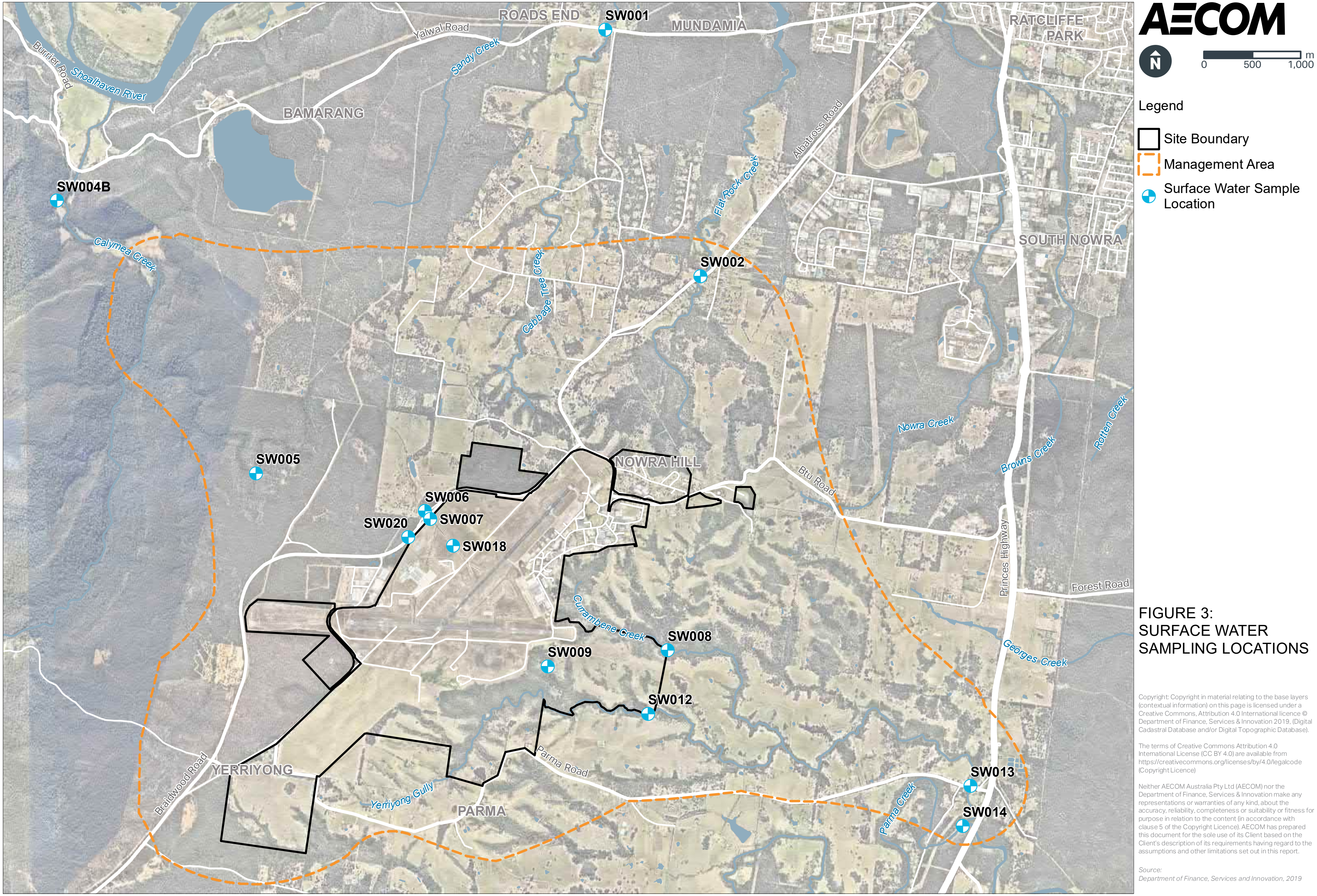
Legend

- Property Boundary
- Management Area
- Groundwater Sample Location

FIGURE 2:
GROUNDWATER
SAMPLING LOCATIONS

Source:
Department of Finance, Services and Innovation, 2019

\\na.aecomnet.com\lfs\APAC\Sydney-AUSYD1\Secure\Groups\GIS\7_Small_Jobs_INTERSTATE_PROJECTS\NTL_60612562\02_Maps\HMAS_Albatross_SS\G002_Albatross_FIG-02_GroundwaterSamplingLocations_A4L_03_220117.mxd Date Saved: 17/01/2022



AECOM

FIGURE 3:
SURFACE WATER SAMPLING LOCATIONS

Source:
Department of Finance, Services and Innovation, 2019

\\AUSYD1FP002\Groups\GIS\7_Small_Jobs_INTERSTATE_PROJECTS\NTL_60612562\02_Maps\HMAS_Albatross\G003_Albatross_FIG-03_SurfaceWaterSamplingLocations_A4L_01_191114.mxd Date Saved: 19/08/2020

Appendix B

Sample Locations

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Appendix B Sample Locations

Table T1 - OMP Sample Locations

Sampling Location ID	Historical Location References	Matrix	x coord	y coord	Notes
SW001	SW01	SW	276778	6136090	
SW002	SW02	SW	277762	6133532	
SW004B	SW03/04B	SW	271090	6134322	previously identified as SW03/04B
SW005	SW05	SW	273155	6131487	
SW006	SW06	SW	274908	6131095	previously identified as BRD/SW06
SW007	SW07	SW	274962	6131014	
SW008	SW08	SW	277427	6129652	previously identified as SW5/SW08
SW009	SW09	SW	276181	6129485	
SW012	SW12	SW	277223	6128991	previously identified as SW6/SW12
SW013	SW13	SW	280564	6128242	
SW014	SW14	SW	280483	6127827	
SW018	SW18	SW	275199	6130736	
SW020	SW20	SW	274735	6130823	
MW001	BH01	GW	276547	6130951	
MW002	BH02	GW	276396	6130918	
MW003	BH03	GW	276814	6130475	
MW004	BH04	GW	277646	6131448	
MW005	BH05	GW	276317	6130164	
MW006	BH06	GW	276207	6129457	
MW008	BH08	GW	275960	6129546	
MW009	BH09	GW	274325	6129628	
MW009_P	BH09s	GW	274324	6129630	
MW012	BH12	GW	274934	6130645	
MW012_P	BH12s	GW	274933	6130642	
MW015	BH15	GW	274549	6129141	
MW016	BH16	GW	273693	6128565	
MW017	BH17	GW	274991	6129627	
MW018	BH18	GW	274921	6131092	
MW024	BH24	GW	[redacted]	[redacted]	
MW026	BH26	GW	[redacted]	[redacted]	
MW029	BH29	GW	276378	6130609	
MW031	BH31	GW	[redacted]	[redacted]	
MW032	BH32	GW	[redacted]	[redacted]	
MW037	BH37	GW	277349	6131391	
MW038	BH38	GW	277294	6129484	
MW039	BH39	GW	275432	6128747	
MW044	BH44	GW	276134	6131428	
MW045	BH45	GW	273974	6129819	
MW046	BH46	GW	274017	6129306	
MW048	BH48	GW	275636	6132038	
MW049	BH49	GW	276452	6131890	

Appendix C

Standard PFAS Analytical Suite Guidance

D R A F T

Appendix C Standard PFAS Analytical Suite Guidance

Australian Government
Department of Defence

Department of Defence

PFAS INVESTIGATION AND MANAGEMENT

GUIDANCE DOCUMENT E
STANDARD PFAS ANALYTICAL SUITE

6 April 2018

Document Version History

Document Reference	Revision	Date
AF29889468	1	10 July 2017
AF32594670	2	21 March 2018
AF32594670	3	6 April 2018

The following is the standard PFAS 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 standard PFAS Suite is based on consideration of;

- US EPA Method 537 (September 2009). Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Publication EPA/600/R-08/092 Version 1.1.

- US EPA Method 821 (December 2011). Draft Procedure for Analysis of Perfluorinated Carboxylic Acids and Sulfonic Acids in Sewage Sludge and Biosolids by HPLC/MS/MS, Publication EPA-821-R-11-007.

- Western Australia Department of Environment Regulation (WA DER; January 2017). Interim Guideline on the Assessment & Management of Perfluoroalkyl & Polyfluoroalkyl Substances WA DER, US EPA Method 537 and US EPA Method 821.

- Current capabilities of analytical laboratories in Australia.

The laboratory is required to use NATA accredited methods based on NEPM, US EPA, Table B15 of US Department of Defence/Department of Energy (US DoD/DoE) and American Society for Testing and Materials (ASTM) methods as appropriate.

The laboratory shall undertake all PFAS analysis in accordance with Table B15 of US DoD/DoE QSM 5.1 and US EPA Method 821. Where the laboratory is currently using a method not in accordance with Table B15 of US DoD/DoE QSM 5.1 or USEPA 821 it should specify the methodology used, variation from Table B15 of US DoD/DoE QSM 5.1 or USEPA821 and capacity to modify current methods in accordance with Table B15 of US DoD/DoE QSM 5.1 or USEPA821.

Defence is aware that US EPA Method 537 is in the process of being updated to include modifications which have been incorporated into US DoD/DoE QSM 5.1. Following the release of US EPA Method 537 Defence will advise of any changes to the required analytical method as described above.

END OF TEXT

Appendix F

OMP Factual Reports

Prepared for
Department of Defence
ABN: 68706814312

AECOM

Sampling Event Factual Report, February 2022

PFAS OMP - HMAS Albatross

29-Mar-2022
HMAS Albatross
Doc No. 20220329_OMP002_Albatross_0

aecom.com

Delivering a better world

Sampling Event Factual Report, February 2022

PFAS OMP - HMAS Albatross

Client: Department of Defence

ABN: 68706814312

Prepared by

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29-Mar-2022

Job No.: 60612562

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

Quality Information

Document	Sampling Event Factual Report, February 2022
Ref	60612562
Date	29-Mar-2022
Prepared by	[redacted]
Reviewed by	[redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	11-Mar-2022	Draft	[redacted]	
0	29-Mar-2022	Final		

Table of Contents

List of Tables (in Text)

List of Acronyms

Acronyms	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AHD	Australian Height Datum
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved Oxygen
DoH	Department of Health
DQI	Data Quality Indicator
EC	Electrical conductivity
HEPA	Heads of Environment Protection Authority
HMAS	His/Her Majesty’s Australian Ship
LOR	Limit of Reporting
MW	Monitoring Well
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
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RAN	Royal Australian Navy
SAQP	Sample and Analysis Quality Plan
SW	Surface Water
SWL	Standing Water Level

Units	Term
g	Gram
km	Kilometre
L	Litre
m	Metre

Units	Term
m btoc	Metres below top of casing
mg/kg	Milligrams per kilogram
µg/L	Micrograms per Litre

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 HMAS Albatross (the 'Site') in the NSW and Jervis Bay Region. The location of the Site and the Management Area is shown in **Figure F1** (in **Appendix A**).

The OMP (Defence, 2019) for the Site outlines the requirement to complete groundwater and/or surface water sampling at pre-determined intervals during the initial 3-year implementation period.

Following each sampling event, a sampling event factual report will be prepared. Annual interpretative 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 annual groundwater and surface water sampling event completed in February 2022, specifically highlighting first time detections and/or first-time exceedances of human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or 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 overarching objective of the monitoring program set out in the OMP (Appendix F in the PFAS Management Area Plan (PMAP) [Defence, 2019]) is to provide information on changes to PFAS contamination originating from Defence property to inform risk management decisions by Defence to protect human health and the environment.

The specific aims of the OMP (Defence, 2019) are to:

- implement surface water and groundwater monitoring to assess the changes in the nature and extent (spatial and temporal) of PFAS concentrations on and off base, focusing where elevated risks have been identified in the PMAP and will need management
- collect further baseline data in groundwater and surface water, for comparison during and after remediation of hotspot/source areas to assess the success of the remediation and management methods
- monitor the migration of PFAS in groundwater from the Site, particularly in groundwater flowing from the northern boundary
- conduct surface water monitoring to assess seasonal effects on water flow and PFAS concentrations, including during or immediately after extreme or high rainfall events

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

2.0 Scope of Work

The annual groundwater and surface water sampling event was completed in general accordance with the SAQP (AECOM, 2022). In summary, the scope of works completed included:

- obtaining permission (where required) to conduct works at the Site and off-site private properties
- gauging of groundwater level in monitoring wells prior to the collection of samples
- groundwater sampling and collection of water quality parameters at 26 groundwater wells (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations), noting that samples from two monitoring locations could not be collected during this sampling event (refer to **Table 3** for more details)
- surface water sampling and collection of water quality parameters at 13 surface water locations (refer to **Table 2** below and **Figure F3** in **Appendix A** for specific locations)
- collecting of field duplicate samples at a rate of 1 in 10 primary samples
- analysis of all samples for the 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.

2.1 Planned Monitoring Locations

The monitoring locations outlined within the SAQP (AECOM, 2022) for the planned annual groundwater and surface water sampling event are provided in **Table 1** and **Table 2** below, respectively.

Table 1 Groundwater Sampling Locations

<table>
<tr><th>Area</th><th>Description</th><th>Sampling Locations</th><th>Number of Locations</th><th>Total</th></tr>
<tr><td rowspan="4">On Site</td><td>Braidwood Road drain sub-catchment</td><td>MW001, MW002, MW012, MW012P</td><td>4</td><td rowspan="4">20 Locations</td></tr>
<tr><td>Upper Currambene Creek sub-catchment</td><td>MW003, MW005, MW029, MW038</td><td>4</td></tr>
<tr><td>Flat Rock Creek sub-catchment</td><td>MW004*, MW037</td><td>2</td></tr>
<tr><td>Yerriyong Gully sub-catchment</td><td>MW006, MW008, MW009, MW009P, MW015, MW016, MW017, MW039, MW045, MW046</td><td>10</td></tr>
<tr><td rowspan="2">Off Site Road Reserve</td><td>Braidwood Road drain sub-catchment</td><td>MW018, MW044</td><td>2</td><td rowspan="2">4 Locations</td></tr>
<tr><td>Cabbage Tree Creek sub-catchment</td><td>MW072, MW073</td><td>2</td></tr>
<tr><td rowspan="2">Off-site Private Property</td><td>Braidwood Road drain sub-catchment</td><td>MW024, MW031</td><td>2</td><td rowspan="2">4 Locations</td></tr>
<tr><td>Upper Currambene Creek sub-catchment</td><td>MW026, MW032*</td><td>2</td></tr>
</table>

*Location not sampled

Table 2 Surface Water Sampling Locations

Area	Description	Sampling Locations	Number of Locations	Total
On Site	Braidwood Road drain	SW007, SW018	2	4 Locations
	Yerriyong Gully	SW009, SW012	2	
Off Site	Cabbage Tree Creek	SW001	1	9 Locations
	Flat Rock Creek	SW002	1	
	Calymea Creek	SW004B	1	
	Braidwood Road drain	SW005, SW006, SW020	3	
	Currambene Creek	SW008	1	
	Parma Creek	SW013, SW014	2	

3.0 Deviations from the SAQP

The annual OMP 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	February 2022 Sampling Event
28 groundwater locations are identified to be sampled as part of the annual sampling event	Monitoring well MW004 (on site) could not be located despite the use of GPS coordinates and a metal detector. The well gatic appears to have been overgrown with long grass, during the one year period since the location was last sampled. Monitoring well MW032 (located on private property) was observed to be destroyed and could not be sampled. The resident informed the field team that the well may have been damaged earlier in 2021, when civil works were completed on their property to re-form a dam near the well. AECOM does not consider the lack of sampling from these locations to constitute a significant data gap as the existing monitoring well network provides sufficient coverage of these locations. AECOM will attempt to locate and sample MW004 during the next forecast sampling event in February 2023.
Groundwater samples are to be collected using HydraSleeves™ deployed prior to the sampling event	Groundwater samples from MW012P, MW015, MW018, MW026 and MW046 were collected using dedicated disposable bailers, as HydraSleeves™ had either been removed by a third party prior to AECOM's arrival on Site, failed to deploy appropriately when removed from the wells. AECOM will attempt to resample the wells using HydraSleeves™ during the next forecast sampling event in February 2023. Groundwater samples from MW005, MW008, MW009 and MW039 were collected using low-flow sampling methodology (MicroPurge pump) following the temporary removal of continuous water level data loggers at the request of Defence's Lead Consultant. As the concentrations of PFAS reported in these samples were either within the historical range for each location (MW005, MW009, MW012P, MW015, MW018, MW026, MW046), or within the same order of magnitude of historical results (MW008, MW039), the change in sampling methodology is not considered to impact upon the reliability of the data for the purposes of the OMP.
Surface water samples are to be collected by lowering a laboratory supplied container into the water with the cap immediately applied once the container is full.	Due to safety and access considerations, the surface water sample at location SW001 was collected using a dedicated disposable bailer, before being decanted into laboratory supplied bottles. Given that sampling results for SW001 were within the historical range reported at this location, the change in sampling methodology is not considered to impact upon the reliability of the data for the purposes of the OMP.

4.0 Methodology

4.1 Sampling Methodology

The methodology adopted for the February 2022 groundwater and surface water sampling event was in accordance with the SAQP (AECOM, 2022) and is summarised 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 all groundwater and surface water locations.
Sampling methodology-	The majority of groundwater samples were collected from each monitoring well using no-purge methodology HydraSleeves™, which were installed within the screened interval of the wells for a minimum of 24 hours prior to the sampling round. This was based on a review of the well construction log. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples from MW012P, MW015, MW018, MW026 and MW046 were collected using dedicated disposable bailers, as HydraSleeves™ had either been removed by a third party prior to AECOM's mobilisation to Site, or did not deploy appropriately. Groundwater samples from MW006, MW008, MW009 and MW039 were collected using low-flow sampling methodology (MicroPurge pump) following the removal of continuous water level data loggers in accordance with a request from Defence's Lead Consultant. The majority of surface water samples were collected by placing the laboratory supplied sample bottles immediately below the water surface with the cap applied once the container was full. At location SW001, the sample was collected using a dedicated, disposable bailer before being decanted into laboratory supplied bottles due to safety considerations.
Sample analysis	Samples were submitted to the primary and secondary laboratories for analysis detailed in **Section 2.0**. ALS Environmental (ALS) Sydney, NSW was used as the primary laboratory. Envirolab Services Pty Ltd (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). Laboratory certificates are presented in **Appendix E**.
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: • *Primary duplicates* collected at a rate of a rate of one per 10 primary samples. The relative percentage difference (RPD) should be less than or equal to 30%. • *Secondary duplicates* collected at a rate of one per 10 primary samples. The RPD should be less than or equal to 30%.

Item	Details
	• *Rinsate blanks* collected at a frequency of one per set of re-used sampling equipment per day. Analytical results should be below the laboratory limit of reporting (LOR). For this annual sampling event, the QA/QC samples included: • 4 x intra-laboratory duplicates, meeting the data quality indicator (DQI) • 4 x inter-laboratory duplicates, meeting the DQI • 4 x rinsate blanks, meeting the DQI. Calibration certificates are presented in **Appendix C**, and the data validation assessment is presented in **Appendix D.**

4.2 Adopted Screening Criteria

Adopted screening criteria references the PFAS National Environmental Management Plan, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

- PFAS National Environmental Management Plan 2.0 (NEMP), (HEPA 2020), https://environment.gov.au/protection/publications/pfas-nemp-2.
- Department of Health (DoH), 2017. Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017 (FSANZ 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC 2019).
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM).

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 5** and **Table 6**.

Table 5 Summary of Adopted Screening Criteria – Human Health

Pathway	Compound	Criteria	Comment/Reference
Drinking water - groundwater	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. 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. *All surface water results were compared to these criteria.*
	PFOA	10 µg/L	

Table 6 Summary of Adopted Screening Criteria – Ecological

Pathway	Compound	Criteria	Comment/Reference
Freshwater	PFOS	0.00023 µg/L	PFAS NEMP (HEPA, 2020) 99% species protection All groundwater and surface water results were compared to these criteria
	PFOA	19 µg/L	

Note: HEPA (2018) notes that the 99% species protection level for PFOS is close to the level of detection. Agencies may wish to apply a 'detect' threshold in such circumstances rather than a quantified measurement.

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.

It is noted that, while bailers or a MicroPurge pump were used to collect samples at nine monitoring wells rather than HydraSleeves™, the results of all but two samples were within the historical ranges reported. Concentrations of PFOS+PFHxS at MW008 and MW039 (37.0 µg/L and 0.05 µg/L, respectively) were marginally higher than their respective historical maximum (24.5 µg/L in August 2020 for MW008 and 0.02 µg/L in February 2021 for MW039). Given that these concentrations are within the same order of magnitude, the quality of the data is considered sufficient for the purposes of the monitoring program.

All data collected during this event have 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 Field Observations

The field observations recorded during the sampling event are presented in **Table 7** below.

Table 7 General Field Observations

Items	Observations
Weather Conditions	During the February 2022 sampling event, the weather was observed to be sunny, with a maximum daily temperature of 32.2˚C recorded on Thursday, 10 February 2022. 2.2 mm and 5.8 mm of rainfall was recorded at the Nowra RAN Air AWS Station (ID 68072) in the 24 hours preceding the sampling event and on 7 and 8 February 2022, respectively (bom.gov.au).
Estate Management Works or Training Activities	No estate management works, or training activities were observed during the annual sampling event.

5.2 Groundwater and Surface Water Observations and Field Measurements

Table 8 Groundwater Surface Water Observations and Field Measurements

Compound	Criteria
Fieldwork Dates	The sampling event was completed between 7 and 10 February 2022.
Access and Sample Collection	All sampling locations were accessible and able to be sampled, with the exception of those detailed in **Table 3**.
Monitoring Well Network Condition	All wells were noted to be in good condition, with the exception of MW032, which was observed to be destroyed and could not be sampled, as detailed in **Table 3**.
Contamination Observations	No obvious visible signs of contamination in the groundwater or surface water were observed at the locations sampled.
Depth to Groundwater and Flow Direction	Depth to groundwater ranged from 0.33 (MW009) and 12.495 (MW003) metres below top of casing (m btoc). Groundwater elevation ranged between 26.249 (MW026) and 131.318 (MW037) metres Australian Height Datum (mAHD). Groundwater gauging data are presented in **Table T1** in **Appendix B**. Inferred groundwater contours and groundwater flow directions based on February 2022 data are shown on **Figure F4** in **Appendix A**. The inferred groundwater flow direction indicates the presence of a groundwater divide running northeast-southwest under the runway tarmac area, with flow towards the north west and southeast. There appears to be a southwest flow component in the northern portion of the Site from Nowra Hill towards MW018. This is generally consistent with the inferred groundwater flow direction in February 2021 sampling event.

Compound	Criteria
Geochemical Parameters	Groundwater and surface water geochemical parameters were measured prior to collecting samples. The stabilised readings are presented in **Table T1** and **Table T2** in **Appendix B** and are summarised below: **Groundwater Geochemical Parameters** • Dissolved oxygen ranged from 0.27 mg/L (MW009) to 3.86 mg/L (MW029) indicating poorly oxygenated conditions. • Electrical conductivity ranged from 101.6 µS/cm (MW015) to 11,433 µS/cm (MW072) indicating fresh to brackish conditions. • pH ranged from 4.45 (MW046) to 7.42 (MW029) indicating acidic to neutral conditions. • Corrected Redox ranged from 158 mV (MW009) to 380 mV (MW074) indicating reducing conditions. **Surface Water Geochemical Parameters** • Dissolved oxygen ranged from 1.3 mg/L (SW002) to 9.45 mg/L (SW009) indicating poorly to well oxygenated conditions. • Electrical conductivity ranged from 247.1 µS/cm (SW014) to 852 µS/cm (SW008) indicating fresh to marginally brackish conditions. • pH ranged from 6.83 (SW002) to 8.88 (SW009) indicating near neutral to slightly alkaline conditions. • Corrected Redox ranged from 230 mV (SW002) to 300 mV (SW007) indicating reducing conditions.

5.2.1 Groundwater Analytical Results - PFAS

The PFAS groundwater analytical results from this sampling event are presented in **Table T3** in **Appendix B**. In summary, PFAS were reported at concentrations above the laboratory LOR in 19 of the 26 primary groundwater samples analysed. Concentrations of PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in 13 of the primary groundwater samples analysed. Concentrations of PFOS and/or PFOA exceeded the adopted ecological screening criteria in 16 of the primary groundwater samples analysed.

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

Table 9 Deviations from Historical Groundwater Dataset

Deviation Type	Location ID	PFOS+PFHxS concentration (µg/L)		PFOS concentration (µg/L)		PFOA concentration (µg/L)	
		Feb 2022	Historical maximum	Feb 2022	Historical maximum	Feb 2022	Historical maximum
First time detections of PFOS+PFHxS and/or PFOA in groundwater	No first time detections of PFOS+PFHxS and/or PFOA were reported during the current sampling event.						
First time exceedance of the NEMP (HEPA, 2020) Drinking water guidelines	MW008	**37**	24.5	**12.7**	4.64	**0.83**	0.52
First time exceedance of the NEMP (HEPA, 2020) Freshwater 99% protection guidelines	No first time exceedances of the NEMP (HEPA, 2020) Freshwater 99% protection guidelines for PFOS and/or PFOA were reported during the current sampling event.						
Legend							
Bold	Bold text indicates existing detection or exceedance of NEMP Human Health Screening Criteria						
Blue Shading	Blue shading indicates sampling location with first time detection of PFOS+PFHxS and/or PFOA						
Yellow Shading	Yellow shading indicates sampling location with first time exceedance of NEMP Human Health Screening criteria						
Purple Shading	Purple shading indicates sampling location with first time exceedance of NEMP Ecological Screening criteria						

5.2.2 Surface Water Analytical Results – PFAS

The PFAS analytical results for surface water samples from this event are presented in **Table T4** in **Appendix B**. In summary, PFAS were reported at concentrations above the laboratory LOR in 12 of the 13 primary surface water samples analysed. Concentrations of PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in eight of the primary surface water samples analysed. Concentrations of PFOS and/or PFOA exceeded the adopted ecological screening criteria in 12 of the primary surface water samples analysed.

No first-time detections of PFOS+PFHxS and/or PFOA, or first-time exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA were reported in the data set.

5.3 Historical Sampling Data

Historical groundwater and surface water sampling data are presented in **Tables T5** and **T6** (respectively) in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The annual monitoring event was completed at the Site, private properties and publicly accessible land within and beyond the Management Area between 7 and 10 February 2022. The scope of works comprised the sampling of:

- groundwater from 28 monitoring wells, two of which could not be accessed/sampled.
- surface water at 13 locations.

The **Table 10** below summarises the findings of the February 2022 sampling event and the recommended actions.

Table 10 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	The following were accessed and able to be sampled: • 26 monitoring wells • 13 surface water sampling locations	AECOM will attempt to sample MW004 (not found) during the next scheduled sampling event in February 2023. AECOM to liaise with the Defence Lead Consultant prior to the next scheduled groundwater sampling event in February 2023 to confirm whether the continuous water level data loggers have been removed from all wells that form part of the OMP. Where data loggers have been removed, AECOM proposes to install HydraSleeves™ prior to the start of the sampling event.
Monitoring well network condition	No issues were identified in the condition of the 26 monitoring wells sampled, with the exception of MW032 which was observed to have been destroyed.	AECOM to liaise with the Defence Lead Consultant prior to the next scheduled groundwater sampling event in February 2023 to confirm whether MW032 should be replaced or removed from the OMP.
Monitoring well network requiring repair	No monitoring wells require repair or maintenance.	Nil.
Analytical Results	PFAS was detected at concentrations above the laboratory LOR in 19 of the primary groundwater and 12 of the primary surface water samples analysed.	Nil.
First time detections of PFOS+PFHxS and/or PFOA	No groundwater or surface water locations reported first-time detections of PFOS+PFHxS and/or PFOA	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.

Item	Comment	Recommended Actions
First time exceedance of Human Health Screening Criteria	One monitoring well (MW008) reported a first time exceedance of the adopted human health screening criteria for PFOA. No first time exceedences of PFOS+PFHxS and/or PFOA were reported in the surface water samples analysed.	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.
First time exceedance of adopted ecological screening criteria	No groundwater or surface water locations reported a first-time exceedance of the adopted ecological screening criteria for PFOS and/or PFOA.	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.

6.2 Upcoming Sampling Events

The next OMP sampling event is scheduled to be undertaken in August 2022 (biannual surface water sampling).

6.3 Upcoming Annual Interpretive Report

The next annual interpretative report is scheduled to be delivered in Q4 2022.

7.0 References

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ASC NEPM, 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*.

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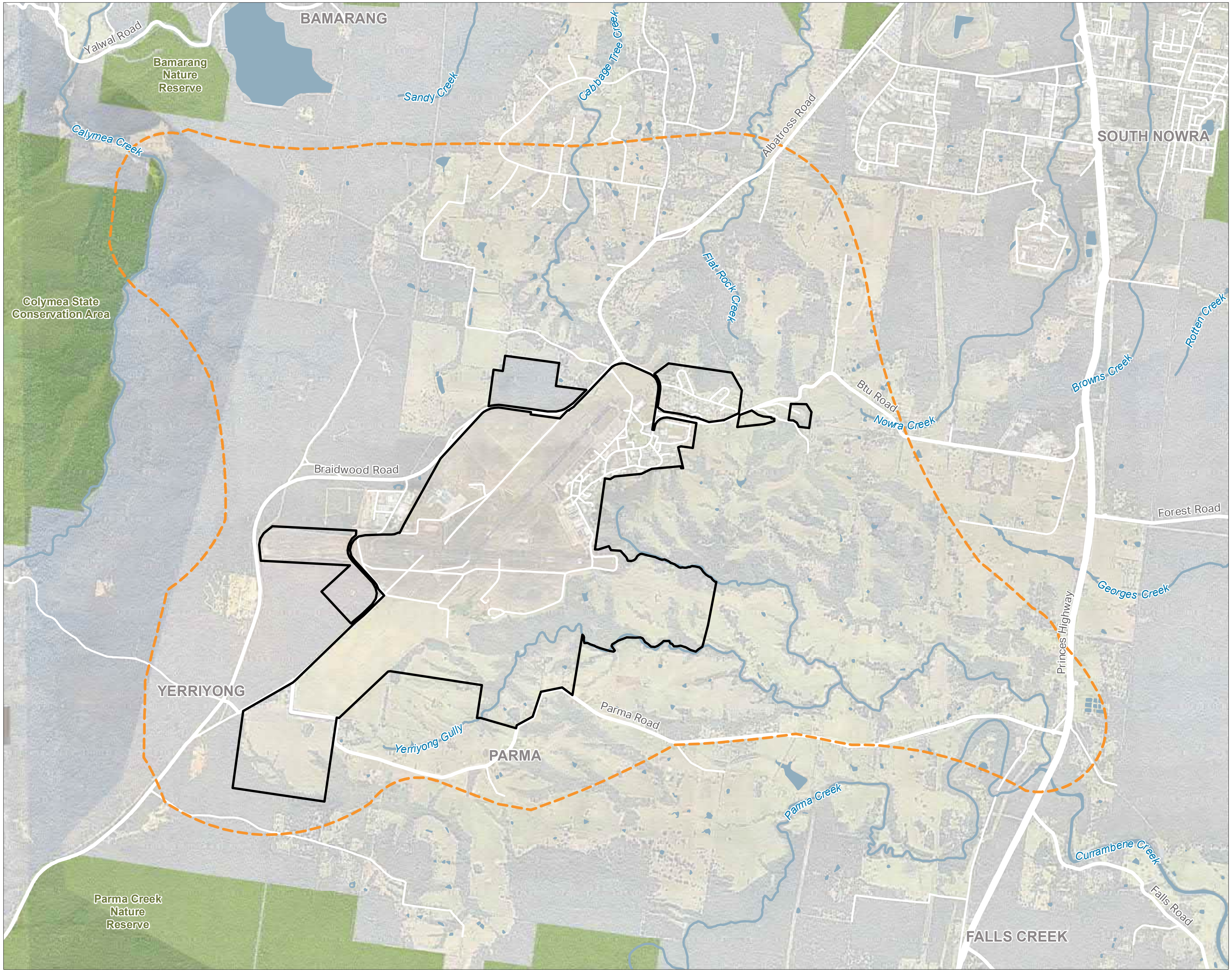
Appendix A

Figures



AECOM

N

0 500 1,000 m

Legend

- Site Boundary
- Management Area

FIGURE F1: SITE LAYOUT

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
February 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:

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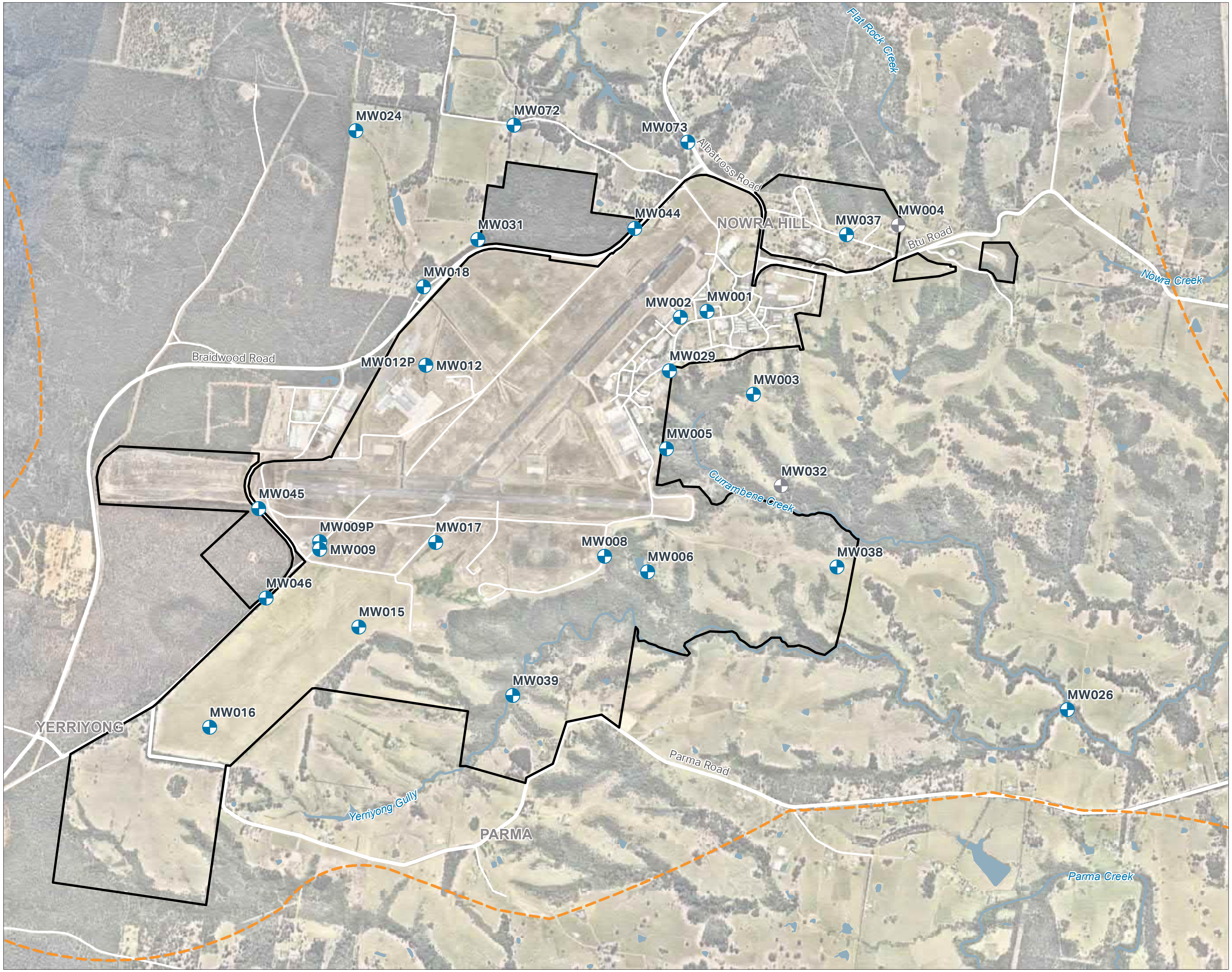

AECOM

N

0 300 600 m

Legend

Property Boundary

Management Area

Groundwater Sampling Location

Groundwater Sampling Location (not sampled)

FIGURE F2:
GROUNDWATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
February 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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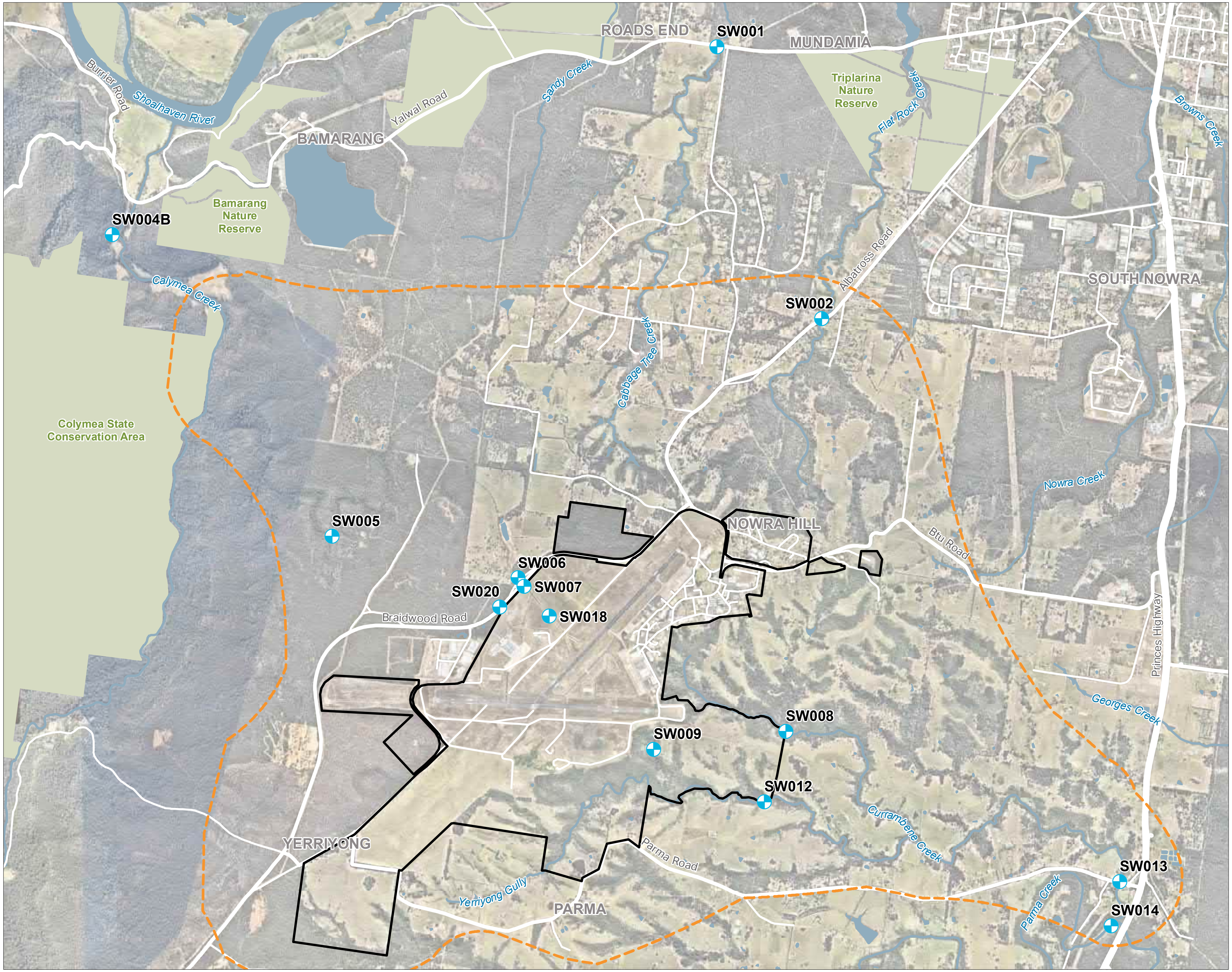

AECOM

0 500 1,000 m

Legend

- Property Boundary
- Management Area
- Surface Water Sampling Locations

FIGURE F3:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
February 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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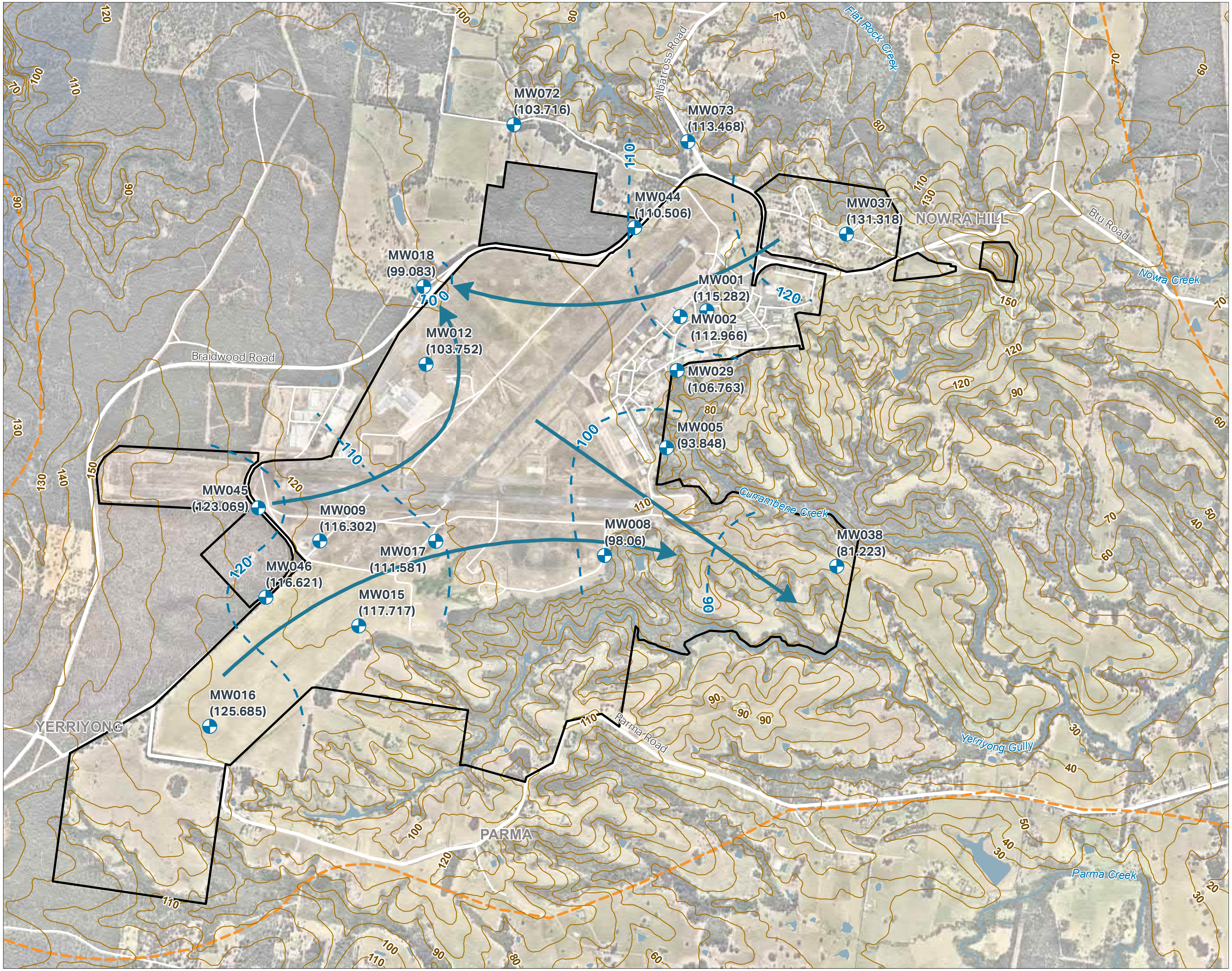

AECOM

Legend

- Property Boundary
- Management Area
- 10m Contour
- Groundwater Contour (mAHD)
- Inferred Groundwater Flow Direction
- Groundwater Sampling Location
- 131.318 Groundwater Elevation (mAHD, February 2022)

FIGURE F4:
GROUNDWATER ELEVATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
February 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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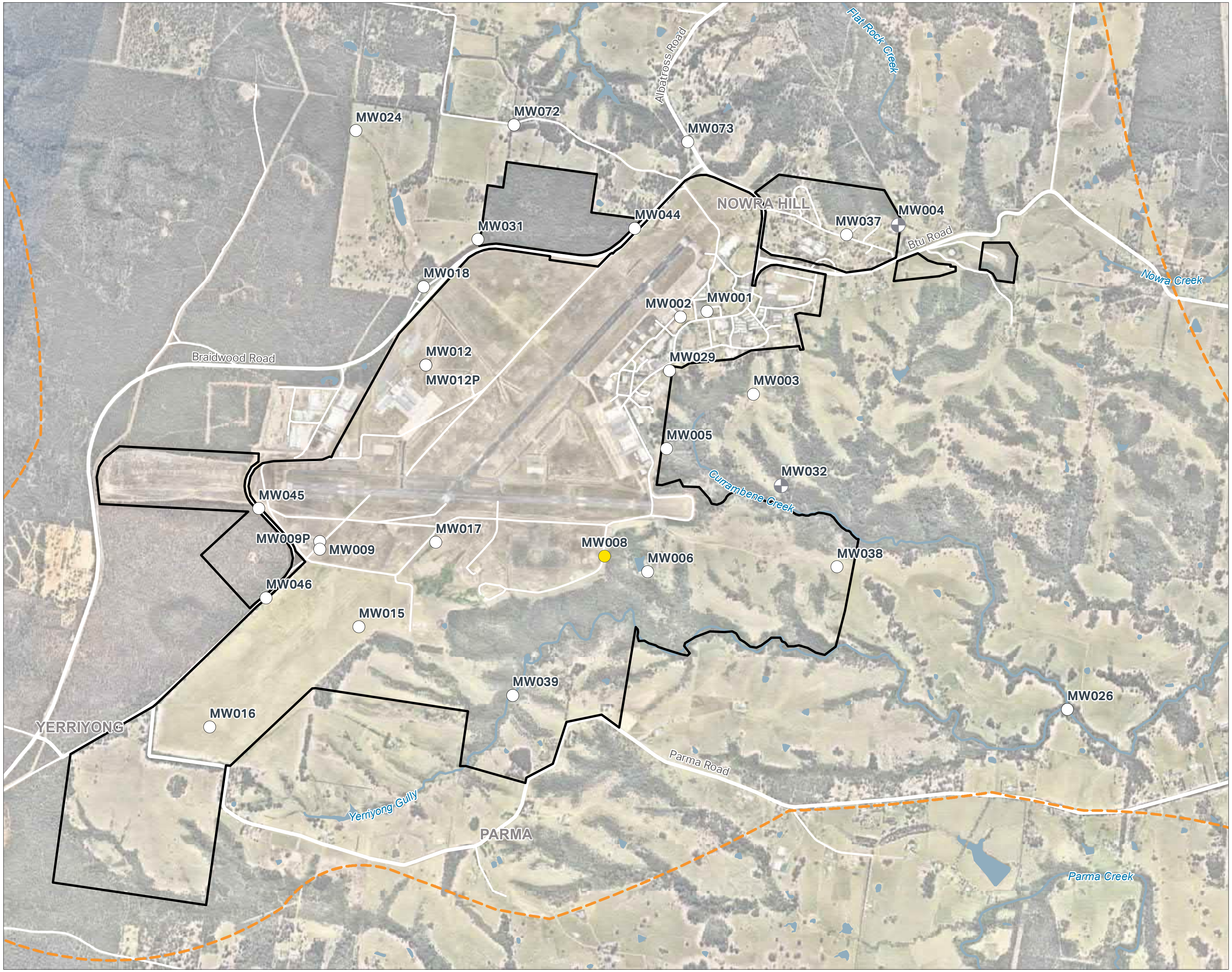

AECOM

N

0 300 600 m

Legend

Property Boundary

Management Area

First Time Exceedance of NEMP (2020) Human Health Screening Criteria

Sampled, No New Detection or Exceedance

Location Not Sampled

FIGURE F5:
GROUNDWATER ANALYTICAL RESULTS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
February 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

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Appendix B

Tables

Table T1 - Groundwater Gauging and Geochemical Parameters

AECOM

Location Code	Alternative Name	Easting	Northing	Top of Casing (mAHD)	Top of Screen (mbTOC)	Bottom of Screen (mbTOC)	HydraSleeve Collar Depth (mbTOC)	Gauging / Visit Date Time	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Depth to Base (mBTOC)	Sample Date Time	Sample Comments	Field Measurements					
														Redox Er	Redox Eh (Corrected)	Dissolved Oxygen	Temperature	Electric Conductivity	pH
														mV	mV	mg/L	°C	µS/cm	pH_Units
MW001	BH01	276547.154	6130950.506	116.622	6	9	8	9/02/2022 13:36	1.34	115.281587	9.99	09/02/2022 13:44	Clear, no turbidity, no odour, no sheen	104.1	310	2.74	24.3	7413	6.43
MW002	BH02	276395.772	6130918.377	114.335	6	9	8	8/02/2022 10:12	1.369	112.965708	9.65	08/02/2022 10:22	Clear, no turbidity, no odour, no sheen	96.9	303	1.57	20.3	10,172	6.3
MW003	BH03	276813.961	6130475.216	112.337	15	20	19	8/02/2022 8:41	12.495	99.841994	21.97	08/02/2022 08:55	Clear, no turbidity, no odour, no sheen	-35	171	1.41	21.1	7749	6.89
MW005	BH05	276316.476	6130163.626	99.114	5.5	8.5	7.5	10/02/2022 12:19	5.266	93.847566	10.51	10/02/2022 13:05	Light brown, medium turbidity, no odour, no sheen	71	277	1.74	19.3	447.8	6.24
MW006	BH06	276207.025	6129457.353	77.233	4	7	6	9/02/2022 15:33	5.35	71.883344	8.07	09/02/2022 15:46	Light grey, low turbidity, septic odour, no sheen, black organic solids at base of Hydrasleeve	-19.4	186	1.48	21.6	606	6.67
MW008	BH08	275959.903	6129545.997	104.912	6	9	8	10/02/2022 8:27	6.852	98.060061	9.5	10/02/2022 09:16	Light brown, low turbidity, no odour, no sheen	83.6	289	0.6	22.8	453.3	5.86
MW009	BH09	274324.580	6129628.300	116.632	12	15	14	10/02/2022 9:51	0.33	116.301718	15.03	10/02/2022 10:28	Clear, no turbidity, no odour, no sheen	-48	158	0.27	19.6	870	7.2
MW009P	BH09s, MW009P	274323.813	6129629.895	116.634	0.5	2.5	1.5	7/02/2022 12:00	0.471	116.162698	2.43	7/02/2022 13:56	Light brown, medium turbidity, sweet odour, no sheen	100.5	306	1.85	24.6	168.5	5.09
MW012	BH12	274933.984	6130645.223	104.087	9	12	11	7/02/2022 11:58	0.335	103.751696	12.99	07/02/2022 12:05	Clear, no turbidity, no odour, no sheen	66.4	272	0.97	20.3	850	6.46
MW012P	BH12s, MW012P	274932.611	6130642.491	104.086	1.3	5.3	4.3	7/02/2022 11:47	0.5	103.586312	5.3	07/02/2022 11:51	Light brown, low turbidity, no odour, no sheen	49	255	2.08	23.8	631	6.19
MW015	BH15	274549.036	6129141.475	119.178	8	11	10	7/02/2022 14:14	1.461	117.71663	13.36	07/02/2022 14:40	Light brown, low turbidity, hydrogen sulphide odour, no sheen	70.3	276	2.41	20.9	101.6	5.81
MW016	BH16	273692.643	6128565.252	126.040	6	9	8	7/02/2022 15:02	0.355	125.685091	9.88	07/02/2022 15:11	Light grey, low turbidity, no odour, no sheen, grey suspended particulates	120.7	327	1.59	20	8516	5.31
MW017	BH17	274991.397	6129626.929	112.476	11	14	13	7/02/2022 10:29	0.895	111.580652	14.4	07/02/2022 11:00	Light grey, medium turbidity, no odour, no sheen	86.2	292	1.29	22.7	760	6.43
MW018	BH18	274921.000	6131092.000	100.782	9.5	12.5	11.5	9/02/2022 12:00	1.699	99.083499	13.84	09/02/2022 12:18	Clear, no turbidity, no odour, no sheen	106	312	3.78	25.8	7610	7.16
MW024	BH24	*	*	97.015	6.5	9.5	8.5	9/02/2022 9:37	0.85	96.16475	10.34	09/02/2022 09:47	Clear, no turbidity, no odour, no sheen	47.3	253	2.01	19	1448	6.73
MW026	BH26	*	*	31.685	5.5	7.5	6.5	9/02/2022 10:56	5.436	26.24925	8.53	09/02/2022 11:08	Light brown, low turbidity, no odour, no sheen	24.6	230	1.63	19.6	1184	6.73
MW029	BH29	276378.000	6130609.000	110.154	5	7.7	6.7	8/02/2022 8:00	3.391	106.762999	8.38	08/02/2022 08:15	Clear, no turbidity, no odour, no sheen	127.2	333	3.86	18.8	6498	7.42
MW031	BH31	*	*	103.386	3	6	5	9/02/2022 10:15	1.177	102.208711	5.86	09/02/2022 10:24	Brown, turbid, no odour, no sheen	135.7	342	1.77	24.1	9204	5.37
MW037	BH37	277349.080	6131391.096	135.174	3.4	6.4	5.4	9/02/2022 8:08	3.856	131.317628	6.16	09/02/2022 08:14	Clear, no turbidity, no odour, no sheen	85.5	291	1.73	18.5	3082	6.57
MW038	BH38	277293.712	6129484.469	86.383	5	8	7	7/02/2022 15:39	5.16	81.222609	7.77	07/02/2022 15:45	Light brown, no turbidity, no odour, no sheen	78.6	284	2.91	21.1	1244	6.81
MW039	BH39	275431.817	6128747.328	74.701	1	4	3	10/02/2022 13:38	0.992	73.709074	2.43	10/02/2022 14:10	Brown, turbid, no odour, no sheen	32.3	238	2.15	23.9	1060	6.38
MW044	BH44	276133.840	6131427.970	111.923	5	7	6	9/02/2022 8:40	1.417	110.506095	7.01	09/02/2022 08:50	Light yellow, low turbidity, no odour, no sheen	46.2	252	0.88	19.2	355.7	6.8
MW045	BH45	273973.670	6129819.430	124.484	7	10	9	7/02/2022 13:45	1.415	123.068806	9.38	07/02/2022 13:59	Clear, low turbidity, no odour, no sheen, suspended red particulates	161.8	368	1.37	20.4	137	4.6
MW046	BH46	274016.500	6129306.000	122.911	5.5	8.5	7.5	7/02/2022 13:20	6.29	116.620855	9.43	07/02/2022 13:31	Clear, no turbidity, no odour, no sheen	174	380	1.83	18.8	1388	4.45
MW072	-	275439.104	6132021.222	108.106	4.85	7.85	6.5	8/02/2022 11:27	4.39	103.7163	7.58	08/02/2022 11:34	Light Grey, low turbidity, no odour, no sheen	48.3	254	1.6	19.6	11,433	6.95
MW073	-	276437.621	6131923.649	120.919	6	11.5	10.5	8/02/2022 10:44	7.451	113.468227	11.3	08/02/2022 10:52	Light Brown, low turbidity, no odour, no sheen	104.2	310	1.4	20.9	7787	6.77

Notes

mbTOC	metres below Top of Casing
mAHD	metres relative to Australian Height Datum
mV	milliVolt
mg/L	milligrams per litre
°C	degrees Celsius
µS/cm	micro Siemens per centremetre

Corrected field Redox measurement (Eh [mV]) = Er [mV] + 205.8

* Not shown due to being located on Residential property

Table T2 - Surfacewater Geochemical Parameters

AECOM

Location	Alternative Name	Easting	Northing	Sample Date Time	Location Description	Sample Comments	Field Measurements					
							Redox Er	Redox Eh (Corrected)	Dissolved Oxygen	Temperature	Electric Conductivity	pH
							mV	mV	mg/L	°C	µS/cm	pH_Units
SW001	SW01	276777.500	6136090.000	8/02/2022 14:18	Creek. Waterbody dimensions: 3.0 m wide, 0.5 m deep. No flow observed. observed.	Light olive brown, low turbidity, no odour, biosheen appearance	78.7	285	1.52	22.7	501	7.07
SW002	SW02	277762.300	6133532.000	8/02/2022 14:42	Small stream. Waterbody dimensions: 0.5 m wide, 0.1 m deep. No flow observed.	Light olive brown, low turbidity, no odour, biosheen appearance, minor suspended solids	24.4	230	1.3	22.8	472.1	6.83
SW004B	SW03/SW04B	271827.107	6132551.557	8/02/2022 13:36	Stream. Waterbody dimensions: 5.0 m wide, 0.5 m deep. No flow observed.	Pale yellow, no turbidity, no odour, no sheen	46.9	253	4.6	21.6	284.5	7.18
SW005	SW05	273155.400	6131487.000	8/02/2022 12:40	Large watering hole. Waterbody dimensions: 20.0 m wide. Flow observed.	Clear, no turbidity, no odour, no sheen	62.7	269	4.51	25.7	441.9	7.44
SW006	BRD/SW06	274906.300	6131095.000	8/02/2022 16:31	Drainage channel. Waterbody dimensions: 2.0 m wide, 0.6m deep. Flow observed.	Clear, no turbidity, no odour, no sheen	92.6	298	5.02	22.2	438.3	7.3
SW007	SW07	274962.300	6131014.000	7/02/2022 12:49	Waterbody dimensions: 3.0 m wide, 0.2 m deep. Flow observed.	Light olive brown, low turbidity, no odour, no sheen, suspended organic matter (algae)	94	300	1.75	23.3	641	6.83
SW008	SW5/SW08	277426.571	6129651.691	10/02/2022 11:20	Small creek. Waterbody dimensions: 5.0 m wide, 0.2 m depth. Flow observed.	Clear, no odour, no sheen	91.6	297	6.5	20.8	852	7.73
SW009	SW09	276181.075	6129485.145	9/02/2022 15:40	STP pond. Waterbody dimensions: ~60.0 m wide, ~30.0 m long. No flow observed.	Light olive brown, medium turbidity, septic odour, no sheen	87.5	293	9.45	31.7	629	8.88
SW012	SW6/SW12	277223.117	6128990.807	10/02/2022 11:52	Stream on bedrock. Waterbody dimensions: 2.0 m wide, 0.2 m deep. Flow observed.	Clear, no turbidity, no odour, no sheen	84.2	290	5.83	23.6	475.2	7.91
SW013	SW13	280563.970	6128241.512	8/02/2022 15:14	Creek. Waterbody dimensions: 3.5 m wide, ~1.0 m deep. Flow observed.	Light olive brown, low turbidity, no odour, no sheen	81	287	4.63	23	605	7.47
SW014	SW14	280483.277	6127826.865	8/02/2022 15:35	Large pond. Waterbody dimensions: ~40 m wide. Flow observed.	Clear, no turbidity, no odour, no sheen	71.5	277	5.76	23.7	247.1	7.52
SW018	SW18	275199.099	6130736.190	7/02/2022 12:28	Drainage line. Mostly dry with puddles of water. Waterbody dimensions: 1.0 m wide, 6.0 m long, 0.25 m deep. No flow observed.	Brown, medium turbidity, no odour, no sheen	91.2	297	4.67	25.7	459.5	7.28
SW020	SW20	274735.084	6130823.253	8/02/2022 12:05	Drainage channel. Waterbody dimensions: 1.0 m wide and 0.3 m deep. Flow observed.	Clear, low turbidity, no odour, no sheen	35.6	241	6.52	21.9	439.6	8.21

Notes

mV	milliVolt
mg/L	milligrams per litre
°C	degrees Celsius
µS/cm	micro Siemens per centremetre

Corrected field Redox measurement (Eh [mV]) = Er [mV] + 205.8

PFAS OMP
Sampling Event Factual Report, February 2022
HMAS Albatross

Table T3 - Groundwater Analytical Results

AECOM

					PFAS Full Suite																														
					Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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
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					**0.07**		**0.56**																												
PFAS NEMP 2020 Freshwater 99%						*0.00023*	*19*																												
Location Code	**Field ID**	**Sampled Date**	**Sample Type**	**Lab Report Number**																															
MW001	0026_MW001_220209	9/02/2022	Normal	ES2204623	<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
MW002	0026_MW002_220208	8/02/2022	Normal	ES2204623	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	0.08	<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	0.09	0.09
MW002	0026_QC101_220208	8/02/2022	Field_D	ES2204623	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	0.07	<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	0.1	0.1
MW003	0026_MW003_220208	8/02/2022	Normal	ES2204623	0.02	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	0.07	0.07
MW005	0026_MW005_220210	10/02/2022	Normal	ES2204623	31.7	20	0.6	11.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.35	0.2	<0.02	<0.02	<0.02	0.54	0.28	2.54	<0.02	<0.02	1.4	0.41	<0.05	<0.02	<0.02	39	37.1
MW006	0026_MW006_220209	9/02/2022	Normal	ES2204623	7.41	4.45	0.12	2.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	<0.1	<0.02	<0.02	<0.02	0.15	0.05	0.59	<0.02	<0.02	0.27	0.12	<0.05	<0.02	<0.02	8.94	8.52
MW008	0026_MW008_220210	10/02/2022	Normal	ES2204623	37	12.7	0.83	24.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.58	0.2	<0.02	<0.02	<0.02	1.47	0.57	6.64	<0.02	<0.02	3.13	0.74	<0.05	<0.02	<0.02	54.2	49.6
MW009	0902_MW009_220210	10/02/2022	Normal	ES2204623	1.99	0.94	0.08	1.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.26	0.2	<0.02	<0.02	<0.02	0.04	0.09	0.74	<0.02	<0.02	0.2	0.18	<0.05	<0.02	<0.02	3.78	3.54
MW009P	0026_MW009P_220207	7/02/2022	Normal	ES2204623	400	333	8.63	66.8	<0.05	<0.05	0.92	2.1	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	8.47	3.6	0.38	0.79	<0.02	5.08	5.64	43.2	1.14	0.27	8.22	6.97	<0.05	<0.02	0.03	495	479
MW012	0026_MW012_220207	7/02/2022	Normal	ES2204623	<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
MW012	0026_QC100_220207	7/02/2022	Field_D	ES2204623	<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
MW012P	0026_MW012P_220207	7/02/2022	Normal	ES2204623	1	0.57	0.02	0.43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	0.05	<0.02	<0.05	<0.02	<0.02	1.23	1.18
MW015	0026_MW015_220207	7/02/2022	Normal	ES2204623	3.5	1.17	0.05	2.33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.39	<0.1	<0.02	<0.02	<0.02	0.08	0.03	0.23	<0.02	<0.02	0.35	0.06	<0.05	<0.02	<0.02	4.69	4.26
MW016	0026_MW016_220207	7/02/2022	Normal	ES2204623	<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
MW016	0026_QC200_220207	7/02/2022	Interlab_D	288597	<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	-
MW017	0026_MW017_220207	7/02/2022	Normal	ES2204623	9.56	0.82	0.14	8.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.18	0.2	<0.02	<0.02	<0.02	0.12	0.17	1.5	<0.02	<0.02	1.47	0.28	<0.05	<0.02	<0.02	14.6	13
MW018	0026_MW018_220209	9/02/2022	Normal	ES2204623	<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
MW024	0026_MW024_220209	9/02/2022	Normal	ES2204624	0.05	0.02	<0.01	0.03	<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
MW026	0026_MW026_220209	9/02/2022	Normal	ES2204625	3.75	1.48	0.09	2.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.42	<0.1	<0.02	<0.02	<0.02	0.09	0.08	0.68	<0.02	<0.02	0.35	0.16	<0.05	<0.02	<0.02	5.62	5.18
MW029	0026_MW029_220208	8/02/2022	Normal	ES2204623	15.8	5.65	0.42	10.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5	0.4	<0.02	<0.02	<0.02	0.23	0.65	8.68	<0.02	<0.02	3.55	1.25	<0.05	<0.02	<0.02	35.9	32.2
MW031	0026_MW031_220209	9/02/2022	Normal	ES2204624	0.04	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	0.08	<0.02	<0.05	<0.02	<0.02	0.33	0.25
MW037	0026_MW037_220209	9/02/2022	Normal	ES2204623	<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
MW037	0026_QC103_220209	9/02/2022	Field_D	ES2204623	<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
MW038	0026_MW038_220207	7/02/2022	Normal	ES2204623	0.06	<0.01	<0.01	0.06	<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	0.1	<0.02	<0.02	<0.02	0.04	<0.05	<0.02	<0.02	0.2	0.2
MW039	0026_MW039_220210	10/02/2022	Normal	ES2204623	0.05	0.04	<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	0.05	0.05
MW044	0026_MW044_220209	9/02/2022	Normal	ES2204623	0.36	0.04	0.01	0.32	<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	0.1	<0.02	<0.02	0.06	<0.02	<0.05	<0.02	<0.02	0.59	0.53
MW044	0026_QC203_220209	9/02/2022	Interlab_D	288597	0.16	0.02	<0.01	0.14	<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	0.19	-
MW045	0026_MW045_220207	7/02/2022	Normal	ES2204623	0.15	0.03	<0.01	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	0.15	0.15
MW046	0026_MW046_220207	7/02/2022	Normal	ES2204623	0.12	0.03	<0.01	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	0.08	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.22	0.22
MW072	0026_MW072_220208	8/02/2022	Normal	ES2204623	<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
MW073	0026_MW073_220208	8/02/2022	Normal	ES2204623	<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
MW073	0026_QC201_220208	8/02/2022	Interlab_D	288597	<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	-

Notes:

LOR	Limit of Reporting
Normal	Primary Sample
Field_D	Intra-laboratory duplicate sample
Interlab_D	Inter-laboratory duplicate sample
(blue)	Denotes first time detection above LOR
(yellow)	Denotes new exceedence of human health screening criteria
(purple)	Denotes new exceedence of ecological screening criteria

Table T4 - Surface Water Analytical Results

AECOM

Location	Field ID	Sampled Date	Sample Type	Lab Report Number	PFAS Full Suite																														
					Sum of PFHxS and PFOS	**Perfluorooctane sulfonic acid (PFOS)**	**Perfluorooctanoic Acid (PFOA)**	**Perfluorohexane sulfonic acid (PFHxS)**	**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
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 99%						*0.00023*	*19*																												
PFAS NEMP 2020 Recreational Water					**2**		**10**																												
SW001	0026_SW001_220208	8/02/2022	Normal	ES2204623	0.09	*0.05*	<0.01	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	0.09	0.09
SW002	0026_SW002_220208	8/02/2022	Normal	ES2204623	0.06	*0.02*	<0.01	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	0.06	0.06
SW002	0026_QC202_220208	8/02/2022	Interlab_D	288597	0.04	*0.01*	<0.01	0.03	<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	0.04	-
SW004B	0026_SW004B_220208	8/02/2022	Normal	ES2204623	0.33	*0.19*	<0.01	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	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.37	0.37
SW005	0026_SW005_220208	8/02/2022	Normal	ES2204623	**4.42**	*2.61*	0.13	1.81	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.08	0.07	0.55	<0.02	<0.02	0.22	0.12	<0.05	<0.02	<0.02	5.79	5.49
SW006	0026_SW006_220208	8/02/2022	Normal	ES2204623	**4.43**	*2.48*	0.1	1.95	<0.05	<0.05	2.09	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.08	0.07	0.74	<0.02	<0.02	0.21	0.15	<0.05	<0.02	<0.02	8.07	7.78
SW007	0026_SW007_220207	7/02/2022	Normal	ES2204623	0.52	*0.28*	0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.12	<0.02	<0.02	0.03	0.1	<0.05	<0.02	<0.02	0.84	0.81
SW008	0026_SW008_220210	10/02/2022	Normal	ES2204623	**4.26**	*2.21*	0.1	2.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.07	0.05	0.55	<0.02	<0.02	0.24	0.09	<0.05	<0.02	<0.02	5.55	5.24
SW009	0026_SW009_220209	9/02/2022	Normal	ES2204623	**16.6**	*11.8*	0.19	4.78	<0.05	<0.05	1.11	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.32	0.1	0.03	<0.02	<0.02	0.22	0.09	1.23	<0.02	<0.02	0.41	0.23	<0.05	<0.02	<0.02	20.5	19.8
SW012	0026_SW012_220210	10/02/2022	Normal	ES2204623	**2.61**	*1.18*	0.06	1.43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.05	0.04	0.26	<0.02	<0.02	0.18	0.06	<0.05	<0.02	<0.02	3.44	3.21
SW013	0026_SW013_220208	8/02/2022	Normal	ES2204623	**3.18**	*1.64*	0.07	1.54	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.32	<0.02	<0.02	0.18	0.07	<0.05	<0.02	<0.02	4.1	3.86
SW013	0026_QC102_220208	8/02/2022	Field_D	ES2204623	**2.59**	*1.15*	0.06	1.44	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	<0.1	<0.02	<0.02	<0.02	0.05	0.04	0.31	<0.02	<0.02	0.17	0.06	<0.05	<0.02	<0.02	3.45	3.23
SW014	0026_SW014_220208	8/02/2022	Normal	ES2204623	<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
SW018	0026_SW018_220207	7/02/2022	Normal	ES2204623	**7.09**	*3.82*	0.19	3.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.44	0.1	<0.02	<0.02	<0.02	0.13	0.09	0.85	<0.02	<0.02	0.46	0.18	<0.05	<0.02	<0.02	9.53	8.94
SW020	0026_SW020_220208	8/02/2022	Normal	ES2204623	**2.35**	*0.99*	0.04	1.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.22	<0.02	<0.02	0.13	0.03	<0.05	<0.02	<0.02	2.93	2.76

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 screening criteria
	Denotes new exceedence of ecological screening criteria

Table T5 - Historical Groundwater Analytical Results

AECOM

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water						**0.07**		**0.56**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
MW001	BH01	0026_MW01_161014	14/10/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW001	BH01	0026_MW01_161115	15/11/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW001	BH01	0026_MW01_170524	24/05/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW001	BH01	0026_MW01_170620	20/06/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW001	BH01	0026_MW01_200228	28/02/2020	Normal	NSW_0026_PFASOMP	**0.08**	*0.06*	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW001	BH01	0026_QC103_200228	28/02/2020	Field_D	NSW_0026_PFASOMP	0.02	*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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW001	BH01	0026_MW001_200824	24/08/2020	Normal	NSW_0026_PFASOMP	0.04	*0.01*	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW001	BH01	0026_MW001_210208	8/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW001	BH01	0026_MW001_220209	9/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	BH02	0026_MW02_161014	14/10/2016	Normal	NSW_0026_PFAS	**0.12**	*0.12*	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW002	BH02	0026_QC232_161014	14/10/2016	Interlab_D	NSW_0026_PFAS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.05	<0.12
MW002	BH02	0026_MW02_161115	15/11/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW002	BH02	0026_MW02_170524	24/05/2017	Normal	NSW_0026_PFAS	0.04	*0.04*	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW002	BH02	0026_QC237_170619	19/06/2017	Interlab_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	BH02	0026_MW02_170620	20/06/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW002	BH02	0026_QC158_170620	20/06/2017	Field_D	NSW_0026_PFAS	<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	<0.01	<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
MW002	BH02	0026_MW02_200228	28/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	BH02	0026_QC203_200228	28/02/2020	Interlab_D	NSW_0026_PFASOMP	<0.02	<0.02	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW002	BH02	0026_MW002_200824	24/08/2020	Normal	NSW_0026_PFASOMP	0.01	*0.01*	<0.01	<0.02	1.04	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	BH02	0026_QC200_200824	24/08/2020	Interlab_D	NSW_0026_PFASOMP	0.01	<0.01	<0.01	0.01	0.10	0.02	<0.01	<0.02	<0.01	<0.02	<0.02	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
MW002	BH02	0026_MW002_210208	8/02/2021	Normal	NSW_0026_PFASOMP	0.01	*0.01*	<0.01	<0.02	0.32	0.02	<0.02	<0.02	<0.02	<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
MW002	BH02	0026_MW002_220208	8/02/2022	Normal	NSW_0026_PFASOMP	0.01	<0.01	<0.01	0.01	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW002	BH02	0026_QC101_220208	8/02/2022	Field_D	NSW_0026_PFASOMP	0.01	<0.01	<0.01	0.01	0.07	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	BH03	0026_MW03_161014	14/10/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW003	BH03	0026_MW03_161115	15/11/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW003	BH03	0026_MW03_170523	23/05/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW003	BH03	0026_MW03_200227	27/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	BH03	0026_MW003_200825	25/08/2020	Normal	NSW_0026_PFASOMP	0.02	*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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	BH03	0026_QC101_200825	25/08/2020	Field_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	BH03	0026_MW003_210208	8/02/2021	Normal	NSW_0026_PFASOMP	0.01	*0.01*	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW003	BH03	0026_MW003_220208	8/02/2022	Normal	NSW_0026_PFASOMP	0.02	*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	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW005	BH05	0026_MW05_161014	14/10/2016	Normal	NSW_0026_PFAS	**7.1**	*2.0*	0.30	5.1	1.5	-	-	<0.01	<0.01	0.23	0.43	2.0	0.32	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW005	BH05	0026_MW05_161116	15/11/2016	Normal	NSW_0026_PFAS	**4.8**	*2.4*	0.28	2.4	0.89	-	-	<0.01	<0.01	0.24	0.32	2.0	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW005	BH05	0026_MW05_170523	23/05/2017	Normal	NSW_0026_PFAS	**11.4**	*5.4*	0.43	6.0	0.96	0.63	0.17	<0.01	<0.01	0.21	0.40	1.8	0.27	<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	BH05	0026_MW05_170620	20/06/2017	Normal	NSW_0026_PFAS	**7.6**	*3.9*	0.31	3.7	1.0	0.72	0.11	<0.01	<0.01	0.21	0.39	1.9	0.23	<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	BH05	0026_MW005_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**13.8**	*7.88*	0.31	5.90	0.72	0.78	0.24	<0.02	<0.02	0.2	0.25	1.13	0.14	<0.02	<0.02	<0.02	<0.02	<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	BH05	0026_MW005_200825	25/08/2020	Normal	NSW_0026_PFASOMP	**32.8**	*19.9*	**0.68**	12.9	1.29	1.74	0.70	<0.02	<0.02	0.2	0.45	2.32	0.32	<0.02	<0.02	<0.02	<0.02	<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	BH05	0026_MW005_210210	10/02/2021	Normal	NSW_0026_PFASOMP	**25.5**	*15.3*	**0.55**	10.2	1.54	1.71	0.56	<0.02	<0.02	0.2	0.39	1.94	0.29	<0.02	<0.02	<0.02	<0.02	<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	BH05	0026_MW005_220210	10/02/2022	Normal	NSW_0026_PFASOMP	**31.7**	*20.0*	**0.60**	11.7	1.35	1.40	0.54	<0.02	<0.02	0.2	0.41	2.54	0.28	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW006	BH06	0026_MW06_161115	15/11/2016	Normal	NSW_0026_PFAS	**22.6**	*15*	0.33	7.6	1.1	-	-	<0.01	<0.01	0.18	0.30	1.7	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW006	BH06	0026_MW06_170523	23/05/2017	Normal	NSW_0026_PFAS	**22.4**	*15*	0.36	7.4	0.52	0.53	0.30	0.02	0.01	0.16	0.32	1.2	0.15	<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
MW006	BH06	0026_MW06_170620	20/06/2017	Normal	NSW_0026_PFAS	**13.2**	*6.8*	<0.2	6.4	<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	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW006	BH06	0026_MW006_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**13.2**	*8.11*	0.21	5.10	0.38	0.46	0.18	<0.02	<0.02	0.1	0.23	0.83	0.08	<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
MW006	BH06	0026_MW006_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**13.3**	*8.46*	0.20	4.83	0.32	0.50	0.22	0.03	<0.02	0.1	0.20	0.94	0.08	<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
MW006	BH06	0026_MW006_210208	8/02/2021	Normal	NSW_0026_PFASOMP	**13.1**	*8.54*	0.23	4.54	0.34	0.50	0.18	<0.02	<0.02	<0.1	0.20	0.87	0.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW006	BH06	0026_MW006_220209	9/02/2022	Normal	NSW_0026_PFASOMP	**7.41**	*4.45*	0.12	2.96	0.23	0.27	0.15	<0.02	<0.02	<0.1	0.12	0.59	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	BH08	0026_MW08_161013	13/10/2016	Normal	NSW_0026_PFAS	**16**	*4.0*	0.36	12	2.0	-	-	<0.01	<0.01	0.22	0.55	3.1	0.34	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW008	BH08	0026_MW08_161115	15/11/2016	Normal	NSW_0026_PFAS	**7**	*3.4*	0.24	3.6	0.93	-	-	<0.01	<0.01	0.16	0.27	2.2	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW008	BH08	0026_MW08_170523	23/05/2017	Normal	NSW_0026_PFAS	**10.2**	*3.1*	0.20	7.1	1.0	0.68	0.32	<0.01	<0.01	0.14	0.40	2.2	0.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW008	BH08	0026_MW08_170620	20/06/2017	Normal	NSW_0026_PFAS	**8.1**	*3.1*	0.20	5.0	1.1	0.92	0.30	<0.01	<0.01	0.13	0.36	2.3	0.20	<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
MW008	BH08	0026_MW08_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**13.0**	*3.07*	0.27	9.88	1.48	1.46	0.37	<0.02	<0.02	0.1	0.44	2.85	0.27	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T5 - Historical Groundwater Analytical Results

AECOM

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	PFAS Full Suite: Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water						**0.07**		**0.56**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
MW008	BH08	0026_MW008_200825	25/08/2020	Normal	NSW_0026_PFASOMP	**24.5**	*4.64*	0.52	19.9	2.46	3.07	0.96	<0.02	<0.02	0.2	0.77	5.34	0.56	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	BH08	0026_MW008_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**15.7**	*1.77*	0.28	13.9	1.73	2.33	0.54	<0.02	<0.02	<0.1	0.42	3.02	0.35	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW008	BH08	0026_MW008_220210	10/02/2022	Normal	NSW_0026_PFASOMP	**37.0**	*12.7*	0.83	24.3	3.58	3.13	1.47	<0.02	<0.02	0.2	0.74	6.64	0.57	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	BH09	0026_MW09_161013	13/10/2016	Normal	NSW_0026_PFAS	**1.46**	*1.0*	0.05	0.46	0.08	-	-	<0.01	<0.01	<0.05	0.04	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW009	BH09	0026_MW09_161115	15/11/2016	Normal	NSW_0026_PFAS	**0.89**	*0.66*	0.03	0.23	0.04	-	-	<0.01	<0.01	<0.05	0.01	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW009	BH09	0026_MW09_170523	23/05/2017	Normal	NSW_0026_PFAS	**2.01**	*1.7*	0.03	0.31	0.03	0.03	0.03	<0.01	<0.01	<0.05	0.01	0.07	0.02	<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
MW009	BH09	0026_MW09_170620	20/06/2017	Normal	NSW_0026_PFAS	**2.51**	*1.8*	0.08	0.71	0.16	0.15	0.05	<0.01	<0.01	0.06	0.08	0.39	0.05	<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
MW009	BH09	0026_MW09_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**37.5**	*18.4*	**1.58**	19.1	7.04	6.05	1.13	0.02	0.04	1.7	2.67	15.0	1.65	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	BH09	0026_MW009_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**28.0**	*10.3*	**2.74**	17.7	10.2	6.44	1.11	<0.02	0.06	2.9	5.18	29.1	3.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	BH09	0026_QC102_200826	26/08/2020	Field_D	NSW_0026_PFASOMP	**26.2**	*9.89*	**2.58**	16.3	9.23	5.91	1.08	<0.02	0.06	2.8	4.76	26.6	3.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	BH09	0026_FFTA_MW09_080920	8/09/2020	Normal	NSW_0026_PFASMGMT	**5.4**	*2.3*	0.42	3.1	1.1	1.0	0.10	<0.01	0.01	0.58	0.64	3.4	0.41	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009	BH09	0026_QC111_080920	8/09/2020	Field_D	NSW_0026_PFASMGMT	**3.8**	*1.5*	0.28	2.3	0.94	0.76	0.08	<0.01	<0.01	0.44	0.31	2.6	0.31	<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
MW009	BH09	0026_QC210_080920	8/09/2020	Field_D	NSW_0026_PFASMGMT	**2.4**	*1.0*	0.15	1.4	0.55	0.42	0.06	<0.01	<0.01	0.20	0.25	1.4	0.15	<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
MW009	BH09	0026_MW009_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**58.0**	*29.9*	**1.94**	28.1	6.69	6.58	1.82	0.16	0.11	2.0	3.12	15.4	1.87	0.05	0.02	<0.02	<0.02	<0.05	<0.05	0.20	0.06	<0.05	0.04	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009	BH09	0902_MW009_220210	10/02/2022	Normal	NSW_0026_PFASOMP	**1.99**	*0.94*	0.08	1.05	0.26	0.20	0.04	<0.02	<0.02	0.2	0.18	0.74	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	BH09s, MW009_P	0026_MW09_P_161013	13/10/2016	Normal	NSW_0026_PFAS	**377**	*300*	**10**	77	10	-	-	<1.5	<1.5	<7.5	8.1	31	6.0	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<7.5	2.0	-	<7.5	<7.5	-	-	<7.5	-	-
MW009P	BH09s, MW009_P	0026_MW09_P_161115	15/11/2016	Normal	NSW_0026_PFAS	**511**	*430*	**13**	81	11	-	-	<0.01	0.91	5.5	8.8	46	6.6	0.48	0.02	<0.01	0.02	0.03	<0.01	1.1	2.0	-	<0.05	<0.05	-	-	<0.05	-	-
MW009P	BH09s, MW009_P	0026_QC151_161115	15/11/2016	Field_D	NSW_0026_PFAS	**517**	*430*	**13**	87	11	-	-	<0.3	0.93	5.3	8.9	44	6.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<1.5	2.0	-	<1.5	<1.5	-	-	<1.5	-	-
MW009P	BH09s, MW009_P	0026_QC151_161115	15/11/2016	Field_D	NSW_0026_PFAS	**527**	*440*	**13**	87	12	-	-	<0.3	0.98	5.6	9.1	46	6.7	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<1.5	2.1	-	<1.5	<1.5	-	-	<1.5	-	-
MW009P	BH09s, MW009_P	0026_MW09_P_170523	23/05/2017	Normal	NSW_0026_PFAS	**570**	*460*	**15**	110	11	10	9.9	<0.01	1.1	6.2	12	49	8.4	0.43	<0.01	<0.01	<0.01	<0.01	<0.01	2.2	2.3	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009P	BH09s, MW009_P	0026_MW09_P_170620	20/06/2017	Normal	NSW_0026_PFAS	**420**	*350*	**11**	70	9.0	8.2	4.6	<2	<2	4.7	10	40	6.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW009P	BH09s, MW009_P	0026_MW09_P_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**310**	*252*	**9.79**	57.8	7.57	10.9	7.28	0.42	0.76	4.2	7.23	34.9	4.78	0.36	0.03	<0.02	<0.02	<0.05	<0.05	0.87	1.13	<0.05	0.17	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	BH09s, MW009_P	0026_MW009_P_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**616**	*496*	***23.1***	120	17.5	23.2	14.7	1.31	2.21	8.2	18.1	83.8	12.5	0.74	0.02	<0.02	<0.02	<0.05	<0.05	2.44	2.77	<0.05	0.07	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	BH09s, MW009_P	0026_FFTA_MW09S_08092	8/09/2020	Normal	NSW_0026_PFASMGMT	**335**	*260*	**9.0**	75	9.8	10	6.0	<0.01	1.6	7.6	12	23	9.3	0.35	<0.01	<0.01	<0.01	<0.01	<0.01	1.3	1.4	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW009P	BH09s, MW009_P	0026_MW009_P_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**472**	*387*	**14.4**	85.3	14.6	14.8	9.36	1.55	1.69	4.5	11.4	54.4	7.69	0.61	0.03	<0.02	<0.02	<0.05	<0.05	1.37	1.78	<0.05	0.17	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW009P	BH09s, MW009_P	0026_MW009P_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**400**	*333*	**8.63**	66.8	8.47	8.22	5.08	0.38	1.14	3.6	6.97	43.2	5.64	0.79	0.03	<0.02	<0.02	<0.05	<0.05	0.92	2.10	<0.05	0.27	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	BH12	0026_MW12_161013	13/10/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012	BH12	0026_MW12_161115	15/11/2016	Normal	NSW_0026_PFAS	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012	BH12	0026_MW12_170523	23/05/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW012	BH12	0026_MW12_170620	20/06/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW012	BH12	0026_MW12_200227	27/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	BH12	0026_MW012_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**0.39**	*0.37*	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	BH12	0026_MW012_210211	11/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	BH12	0026_MW012_220207	7/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012	BH12	0026_QC100_220207	7/02/2022	Field_D	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	BH12s, MW012_P	0026_MW12_P_161013	13/10/2016	Normal	NSW_0026_PFAS	0.05	*0.04*	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012P	BH12s, MW012_P	0026_MW12_P_161115	15/11/2016	Normal	NSW_0026_PFAS	0.03	*0.03*	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW012P	BH12s, MW012_P	0026_MW12_P_170523	23/05/2017	Normal	NSW_0026_PFAS	**0.08**	*0.05*	<0.01	0.03	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW012P	BH12s, MW012_P	0026_MW12_P_170620	20/06/2017	Normal	NSW_0026_PFAS	**0.23**	*0.08*	<0.01	0.15	0.01	0.02	<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
MW012P	BH12s, MW012_P	0026_MW12_P_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**4.08**	*2.63*	0.04	1.45	0.20	0.15	0.04	<0.02	<0.02	<0.1	0.06	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	BH12s, MW012_P	0026_MW012_P_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**1.39**	*0.80*	0.02	0.59	0.08	0.07	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	BH12s, MW012_P	0026_MW012_P_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**0.41**	*0.29*	<0.01	0.12	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW012P	BH12s, MW012_P	0026_MW012P_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**1.00**	*0.57*	0.02	0.43	0.07	0.05	<0.02	<0.02	<0.02	<0.1	<0.02	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
MW015	BH15	0026_MW15_161013	13/10/2016	Normal	NSW_0026_PFAS	0.03	<0.01	<0.01	0.03	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW015	BH15	0026_MW15_161116	15/11/2016	Normal	NSW_0026_PFAS	0.05	<0.01	<0.01	0.05	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
MW015	BH15	0026_MW15_170523	23/05/2017	Normal	NSW_0026_PFAS	**0.51**	*0.04*	0.01	0.47	0.09	0.06	<0.01	<0.01	<0.01	<0.05	0.02	0.08	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
MW015	BH15	0026_MW15_170620	20/06/2017	Normal	NSW_0026_PFAS	**27.4**	*6.4*	0.34	21	3.5	2.9	0.82	<0.01	<0.01	0.10	0.23	1.8	0.25	<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
MW015	BH15	0026_MW15_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**16.2**	*5.06*	0.34	11.1	1.23	1.28	0.70	<0.02	<0.02	0.4	0.49	2.09	0.21	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW015	BH15	0026_MW015_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**5.23**	*1.29*	0.07	3.94	0.54	0.57	0.17	<0.02	<0.02	<0.1	0.05	0.43	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW015	BH15	0026_MW015_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**0.13**	*0.06*	<0.01	0.07	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW015	BH15	0026_MW015_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**3.50**	*1.17*	0.05	2.33	0.39	0.35	0.08	<0.02	<0.02	<0.1	0.06	0.23	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)
						PFAS Full Suite												
						µg/L	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004
PFAS NEMP 2020 Drinking Water						0.07		0.56										
PFAS NEMP 2020 Freshwater 99%							0.00023	19										
MW016	BH16	0026_MW16_161013	13/10/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW016	BH16	0026_MW16_161116	15/11/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW016	BH16	0026_MW16_170523	23/05/2017	Normal	NSW_0026_PFAS	<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
MW016	BH16	0026_MW16_170620	20/06/2017	Normal	NSW_0026_PFAS	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
MW016	BH16	0026_MW16_200227	27/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW016	BH16	0026_QC202_200227	27/02/2020	Interlab_D	NSW_0026_PFASOMP	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01
MW016	BH16	0026_MW016_200826	26/08/2020	Normal	NSW_0026_PFASOMP	0.09	0.09	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW016	BH16	0026_MW016_210211	11/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW016	BH16	0026_MW016_220207	7/02/2022	Normal	NSW_0026_PFASOMP	<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
MW016	BH16	0026_QC200_220207	7/02/2022	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01
MW017	BH17	0026_MW17_161013	13/10/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW017	BH17	0026_MW17_161116	15/11/2016	Normal	NSW_0026_PFAS	0.32	0.05	<0.01	0.27	0.04	-	-	<0.01	<0.01	<0.05	0.01	0.07	<0.01
MW017	BH17	0026_MW17_170523	23/05/2017	Normal	NSW_0026_PFAS	0.07	<0.01	<0.01	0.07	0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01
MW017	BH17	0026_MW17_170620	20/06/2017	Normal	NSW_0026_PFAS	0.08	0.01	<0.01	0.07	0.01	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01
MW017	BH17	0026_MW17_200227	27/02/2020	Normal	NSW_0026_PFASOMP	0.68	0.09	0.01	0.59	0.07	0.07	<0.02	<0.02	<0.02	<0.1	0.02	0.10	<0.02
MW017	BH17	0026_MW017_200826	26/08/2020	Normal	NSW_0026_PFASOMP	11.7	0.88	0.34	10.8	2.01	2.27	0.22	<0.02	<0.02	0.4	0.69	3.24	0.39
MW017	BH17	0026_MW017_210211	11/02/2021	Normal	NSW_0026_PFASOMP	6.70	0.81	0.21	5.89	0.90	0.88	0.16	<0.02	<0.02	0.1	0.21	1.19	0.23
MW017	BH17	0026_QC102_210211	11/02/2021	Field_D	NSW_0026_PFASOMP	6.33	0.81	0.21	5.52	0.95	0.83	0.15	<0.02	<0.02	0.1	0.21	1.25	0.23
MW017	BH17	0026_MW017_220207	7/02/2022	Normal	NSW_0026_PFASOMP	9.56	0.82	0.14	8.74	1.18	1.47	0.12	<0.02	<0.02	0.2	0.28	1.50	0.17
MW018	BH18	0026_QC147_161114	14/11/2016	Field_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_QC148_161114	14/11/2016	Field_D	NSW_0026_PFAS	0.13	0.13	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_MW18_161114	15/11/2016	Normal	NSW_0026_PFAS	0.02	0.02	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_MW18_161213	13/12/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_QC153_161213	13/12/2016	Field_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_QC233_161213	13/12/2016	Field_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW018	BH18	0026_MW18_161114	8/02/2017	Normal	NSW_0026_PFAS	5	3.3	0.11	1.7	0.24	-	-	<0.01	<0.01	0.07	0.05	0.47	0.04
MW018	BH18	0026_MW18_170522	22/05/2017	Normal	NSW_0026_PFAS	<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
MW018	BH18	0026_MW18_170619	19/06/2017	Normal	NSW_0026_PFAS	<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
MW018	BH18	0026_QC157_170619	19/06/2017	Field_D	NSW_0026_PFAS	<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
MW018	BH18	0026_QC238_170620	20/06/2017	Interlab_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW018	BH18	0026_MW18_200226	26/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW018	BH18	0026_MW018_200824	24/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	0.72	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW018	BH18	0026_MW018_210209	9/02/2021	Normal	NSW_0026_PFASOMP	0.01	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW018	BH18	0026_MW018_220209	9/02/2022	Normal	NSW_0026_PFASOMP	<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
MW024	BH24	0026_MW24_161115	15/11/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW024	BH24	0026_QC149_161115	15/11/2016	Field_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW024	BH24	0026_QC150_161115	15/11/2016	Field_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW024	BH24	0026_MW24_161213	14/12/2016	Normal	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01
MW024	BH24	0026_MW24_170525	25/05/2017	Normal	NSW_0026_PFAS	1.62	0.62	0.03	1.0	0.07	0.07	0.03	<0.01	<0.01	<0.05	0.03	0.13	0.02
MW024	BH24	0026_MW24_170621	21/06/2017	Normal	NSW_0026_PFAS	0.67	0.26	0.01	0.41	0.03	0.03	<0.01	<0.01	<0.01	<0.05	0.02	0.06	<0.01
MW024	BH24	0026_MW24_200228	28/02/2020	Normal	NSW_0026_PFASOMP	0.35	0.22	<0.01	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02
MW024	BH24	0026_MW024_200825	25/08/2020	Normal	NSW_0026_PFASOMP	0.57	0.26	0.02	0.31	0.04	0.03	<0.02	<0.02	<0.02	<0.1	0.04	0.12	0.02
MW024	BH24	0026_MW024_210209	9/02/2021	Normal	NSW_0026_PFASOMP	0.45	0.17	0.02	0.28	0.05	0.03	<0.02	<0.02	<0.02	<0.1	0.04	0.12	0.03
MW024	BH24	0026_MW024_220209	9/02/2022	Normal	NSW_0026_PFASOMP	0.05	0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
MW026	BH26	0026_MW26_161116	16/11/2016	Normal	NSW_0026_PFAS	4.8	3.2	0.11	1.6	0.28	-	-	<0.01	<0.01	0.09	0.07	0.69	0.04
MW026	BH26	0026_MW26_161213	13/12/2016	Normal	NSW_0026_PFAS	5.8	3.6	0.12	2.2	0.44	-	-	<0.01	<0.01	0.07	0.08	0.66	0.06
MW026	BH26	0026_MW26_170523	23/05/2017	Normal	NSW_0026_PFAS	5.7	2.8	0.13	2.9	0.29	0.28	0.09	<0.01	<0.01	0.06	0.12	0.49	0.07
MW026	BH26	0026_MW26_170621	21/06/2017	Normal	NSW_0026_PFAS	4.7	2.8	0.08	1.9	0.30	0.30	0.09	<0.01	<0.01	0.06	0.11	0.49	0.06
MW026	BH26	0026_MW26_200228	28/02/2020	Normal	NSW_0026_PFASOMP	2.93	0.83	0.10	2.10	1.04	0.54	0.04	<0.02	<0.02	0.4	0.56	2.16	0.17
MW026	BH26	0026_MW026_200825	25/08/2020	Normal	NSW_0026_PFASOMP	4.09	1.08	0.14	3.01	0.76	0.55	0.07	<0.02	<0.02	0.2	0.40	1.74	0.17
MW026	BH26	0026_MW026_210209	9/02/2021	Normal	NSW_0026_PFASOMP	5.14	2.09	0.13	3.05	0.47	0.43	0.10	<0.02	<0.02	0.1	0.22	0.90	0.13

Field ID	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
LOR	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water																
PFAS NEMP 2020 Freshwater 99%																
0026_MW16_161013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW16_161116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW16_170523	<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
0026_MW16_170620	<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
0026_MW16_200227	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_QC202_200227	<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
0026_MW016_200826	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW016_210211	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW016_220207	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_QC200_220207	<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
0026_MW17_161013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW17_161116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW17_170523	<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
0026_MW17_170620	<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
0026_MW17_200227	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW017_200826	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW017_210211	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_QC102_210211	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW017_220207	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_QC147_161114	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_QC148_161114	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW18_161114	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW18_161213	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_QC153_161213	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_QC233_161213	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
0026_MW18_161114	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
0026_MW18_170522	<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
0026_MW18_170619	<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
0026_QC157_170619	<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
0026_QC238_170620	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW18_200226	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW018_200824	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW018_210209	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW018_220209	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW24_161115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_QC149_161115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_QC150_161115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW24_161213	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW24_170525	<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
0026_MW24_170621	<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
0026_MW24_200228	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW024_200825	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW024_210209	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW024_220209	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW26_161116	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW26_161213	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
0026_MW26_170523	<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
0026_MW26_170621	<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
0026_MW26_200228	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW026_200825	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
0026_MW026_210209	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water						**0.07**		**0.56**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
MW026	BH26	0026_MW026_220209	9/02/2022	Normal	NSW_0026_PFASOMP	**3.75**	*1.48*	0.09	2.27	0.42	0.35	0.09	<0.02	<0.02	<0.1	0.16	0.68	0.08	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW029	BH29	0026_MW29_161115	15/11/2016	Normal	NSW_0026_PFAS	**5.4**	*3.0*	0.18	2.4	1.2	-	-	<0.01	<0.01	0.25	0.38	2.5	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
MW029	BH29	0026_MW29_161212	12/12/2016	Normal	NSW_0026_PFAS	**1.08**	*0.63*	0.08	0.45	0.17	-	-	<0.01	0.03	0.09	0.08	0.28	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
MW029	BH29	0026_MW29_170524	24/05/2017	Normal	NSW_0026_PFAS	**7.2**	*3.5*	0.26	3.7	1.8	1.0	0.13	<0.01	<0.01	0.25	0.80	3.0	0.28	<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
MW029	BH29	0026_MW29_170620	20/06/2017	Normal	NSW_0026_PFAS	**5**	*2.6*	0.12	2.4	1.0	0.81	0.09	<0.01	<0.01	0.14	0.43	1.7	0.14	<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
MW029	BH29	0026_MW29_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**19.1**	*9.19*	0.37	9.92	3.47	2.60	0.34	0.04	<0.02	0.4	1.12	4.95	0.42	<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
MW029	BH29	0026_QC102_200227	27/02/2020	Field_D	NSW_0026_PFASOMP	**20.2**	*10.5*	0.40	9.65	3.54	2.70	0.33	0.04	<0.02	0.4	1.09	4.90	0.41	<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
MW029	BH29	0026_MW029_200825	25/08/2020	Normal	NSW_0026_PFASOMP	**21.6**	*7.43*	0.50	14.2	5.74	3.84	0.32	<0.02	<0.02	0.6	1.75	8.63	0.79	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW029	BH29	0026_QC201_200825	25/08/2020	Interlab_D	NSW_0026_PFASOMP	**15**	*5.2*	0.34	9.5	4.5	3.2	0.22	<0.02	<0.01	0.48	1.1	6.0	0.62	<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
MW029	BH29	0026_MW029_210208	8/02/2021	Normal	NSW_0026_PFASOMP	**16.9**	*5.72*	0.42	11.2	5.49	4.29	0.29	<0.02	<0.02	0.3	1.33	7.51	0.80	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW029	BH29	0026_MW029_220208	8/02/2022	Normal	NSW_0026_PFASOMP	**15.8**	*5.65*	0.42	10.1	5.00	3.55	0.23	<0.02	<0.02	0.4	1.25	8.68	0.65	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW031	BH31	0026_MW31_170525	25/05/2017	Normal	NSW_0026_PFAS	0.02	<0.01	<0.01	0.02	0.11	0.06	<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
MW031	BH31	0026_MW31_170621	21/06/2017	Normal	NSW_0026_PFAS	0.02	<0.01	<0.01	0.02	0.07	0.05	<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
MW031	BH31	0026_QC159_170621	21/06/2017	Field_D	NSW_0026_PFAS	0.02	<0.01	<0.01	0.02	0.07	0.05	<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
MW031	BH31	0026_QC239_170621	21/06/2017	Interlab_D	NSW_0026_PFAS	0.03	<0.01	<0.01	0.03	0.09	0.06	<0.02	<0.02	<0.02	<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
MW031	BH31	0026_MW31_200228	28/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	0.07	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW031	BH31	0026_MW031_200825	25/08/2020	Normal	NSW_0026_PFASOMP	**0.10**	<0.01	<0.01	0.10	0.20	0.13	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW031	BH31	0026_MW031_210209	9/02/2021	Normal	NSW_0026_PFASOMP	0.03	<0.01	<0.01	0.03	0.14	0.08	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW031	BH31	0026_MW031_220209	9/02/2022	Normal	NSW_0026_PFASOMP	0.04	<0.01	<0.01	0.04	0.17	0.08	<0.02	<0.02	<0.02	<0.1	<0.02	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
MW037	0020_MW01, MW01	0020_MW01_S_170206	6/02/2017	Normal	ACTNSW_Hist_202012-3	**3.6**	*0.2*	0.19	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	-	-	-	-	-	-
MW037	BH37	0026_MW37_170522	22/05/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW037	BH37	0026_QC154_170522	22/05/2017	Field_D	NSW_0026_PFAS	<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	<0.01	<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
MW037	BH37	0026_QC234_170522	22/05/2017	Interlab_D	NSW_0026_PFAS	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	BH37	0026_MW37_170619	19/06/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW037	0020_MW01, MW01	0020_MW01_6.0_20180207	7/02/2018	Normal	ACTNSW_Hist_202012-3	**11.6**	*2.65*	0.7	8.9	1.54	1.36	0.75	<0.02	<0.02	0.2	0.53	1.49	0.37	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	BH37	0026_MW037_200827	27/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	BH37	0026_MW037_210209	9/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	BH37	0026_MW037_220209	9/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW037	BH37	0026_QC103_220209	9/02/2022	Field_D	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW038	BH38	0026_MW38_170523	23/05/2017	Normal	NSW_0026_PFAS	0.04	<0.01	<0.01	0.04	0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	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
MW038	BH38	0026_MW38_170620	20/06/2017	Normal	NSW_0026_PFAS	0.04	*0.01*	<0.01	0.03	0.02	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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW038	BH38	0026_MW38_200227	27/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW038	BH38	0026_MW038_200826	26/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW038	BH38	0026_MW038_210208	8/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW038	BH38	0026_MW038_220207	7/02/2022	Normal	NSW_0026_PFASOMP	0.06	<0.01	<0.01	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.04	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
MW039	BH39	0026_MW39_170523	23/05/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW039	BH39	0026_MW39_170621	21/06/2017	Normal	NSW_0026_PFAS	<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	<0.01	<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
MW039	BH39	0026_MW39_200228	28/02/2020	Normal	NSW_0026_PFASOMP	0.01	*0.01*	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW039	BH39	0026_MW039_200825	25/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW039	BH39	0026_MW039_210209	9/02/2021	Normal	NSW_0026_PFASOMP	0.02	*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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW039	BH39	0026_MW039_220210	10/02/2022	Normal	NSW_0026_PFASOMP	0.05	*0.04*	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_MW44_170522	22/05/2017	Normal	NSW_0026_PFAS	**5.16**	*0.06*	0.24	5.1	3.4	1.4	0.05	<0.01	<0.01	0.70	1.2	4.1	0.42	<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
MW044	BH44	0026_MW44_170620	20/06/2017	Normal	NSW_0026_PFAS	**11.17**	*0.17*	0.39	11	5.1	3.0	0.08	<0.01	<0.01	0.92	1.3	6.9	0.65	<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
MW044	BH44	0026_MW44_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**16.5**	*0.69*	0.50	15.8	4.00	3.94	0.24	<0.02	<0.02	0.7	1.08	5.81	0.59	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_MW044_200824	24/08/2020	Normal	NSW_0026_PFASOMP	**13.2**	*0.47*	0.38	12.7	3.24	3.33	0.20	<0.02	<0.02	0.5	0.85	4.86	0.50	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_QC100_200824	24/08/2020	Field_D	NSW_0026_PFASOMP	**17.0**	*0.58*	0.45	16.4	3.96	3.92	0.24	<0.02	<0.02	0.6	1.02	5.80	0.58	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_MW044_210209	9/02/2021	Normal	NSW_0026_PFASOMP	**10.6**	*0.55*	0.46	10.1	2.52	3.38	0.24	<0.02	<0.02	0.4	0.71	3.55	0.53	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_QC100_210209	9/02/2021	Field_D	NSW_0026_PFASOMP	**11.3**	*0.58*	0.54	10.7	3.43	3.24	0.21	<0.02	<0.02	0.4	0.84	5.46	0.62	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW044	BH44	0026_MW044_220209	9/02/2022	Normal	NSW_0026_PFASOMP	**0.36**	*0.04*	0.01	0.32	0.06	0.06	<0.02	<0.02	<0.02	<0.1	<0.02	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
MW044	BH44	0026_QC203_220209	9/02/2022	Interlab_D	NSW_0026_PFASOMP	**0.16**	*0.02*	<0.01	0.14	<0.01	0.01	<0.01	<0.02	<0.01	<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
MW045	BH45	0026_MW45_170522	22/05/2017	Normal	NSW_0026_PFAS	**0.2**	*0.05*	<0.01	0.15	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table T5 - Historical Groundwater Analytical Results

AECOM

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	PFAS Full Suite																												
						Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water						**0.07**		**0.56**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
MW045	BH45	0026_MW45_170619	19/06/2017	Normal	NSW_0026_PFAS	**0.15**	*0.04*	<0.01	0.11	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW045	BH45	0026_MW45_200227	27/02/2020	Normal	NSW_0026_PFASOMP	**0.30**	*0.12*	<0.01	0.18	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW045	BH45	0026_MW045_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**0.29**	*0.10*	<0.01	0.19	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW045	BH45	0026_MW045_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**0.13**	*0.03*	<0.01	0.10	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW045	BH45	0026_QC202_210211	11/02/2021	Interlab_D	NSW_0026_PFASOMP	**0.091**	<0.02	<0.01	0.091	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
MW045	BH45	0026_MW045_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**0.15**	*0.03*	<0.01	0.12	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW046	BH46	0026_MW46_170522	22/05/2017	Normal	NSW_0026_PFAS	**0.13**	*0.03*	<0.01	0.10	0.02	0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.09	<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
MW046	BH46	0026_MW46_170619	19/06/2017	Normal	NSW_0026_PFAS	**0.06**	<0.01	<0.01	0.06	0.02	0.01	<0.01	<0.01	<0.01	<0.05	0.01	0.06	<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
MW046	BH46	0026_MW046_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**0.21**	*0.11*	<0.01	0.10	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW046	BH46	0026_MW046_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**0.14**	*0.07*	<0.01	0.07	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW046	BH46	0026_MW046_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**0.12**	*0.03*	<0.01	0.09	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	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
MW072	MW72	0026_MW072_200827	27/08/2020	Normal	NSW_0026_PFASOMP	**0.13**	*0.13*	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW072	MW72	0026_MW072_210209	9/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW072	MW72	0026_MW072_220208	8/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

Table T5 - Historical Groundwater Analytical Results

AECOM

Location Code	Alternative Name	Field ID	Date	Sample Type	Project ID	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0002	0.0002	0.0002	0.0004	0.001	0.001	0.002	0.001	0.002	0.002	0.0004	0.0004	0.002	0.002	0.005	0.01	0.01	0.001	0.0004	0.0004	0.002	0.01	0.005	0.002	0.005	0.01	0.002	0.05
PFAS NEMP 2020 Drinking Water						**0.07**		**0.56**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
MW073	MW73	0026_MW073_200827	27/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	MW73	0026_MW073_210209	9/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	MW73	0026_MW073_220208	8/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
MW073	MW73	0026_QC201_220208	8/02/2022	Interlab_D	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<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

AECOM

Table T6 - Historical Surfacewater Analytical Tables

Location Code	Alternative Name	Field ID	Date	Sample Type	Project	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS - Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0001	0.0002	0.0002	0.0004	0.001	0.001	0.001	0.001	0.002	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.001	0.001	0.0004	0.0004	0.001	0.005	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**2**		**10**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
Location Code	**Alternative Name**	**Field ID**	**Date**	**Sample Type**	**Project**																													
SW001	SW01	0026_QC101_210210	10/02/2021	Field_D	NSW_0026_PFASOMP	0.02	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW01_161115	15/11/2016	Normal	NSW_0026_PFAS	-	0.05	<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW001	SW01	0026_SW01_161213	13/12/2016	Normal	NSW_0026_PFAS	-	0.06	<0.01	0.03	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW001	SW01	0026_SW01_161217	17/12/2016	Normal	NSW_0026_PFAS	-	0.18	<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW001	SW01	0026_SW01_170209	9/02/2017	Normal	NSW_0026_PFAS	-	0.05	<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	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW001	SW01	0026_SW01_170330	30/03/2017	Normal	NSW_0026_PFAS	-	0.1	<0.01	0.08	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW001	SW01	0026_SW01_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.07	0.04	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW01_200226	26/02/2020	Normal	NSW_0026_PFASOMP	0.04	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_200520	20/05/2020	Normal	NSW_0026_PFASOMP	0.03	0.03	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_200714	14/07/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_200827	27/08/2020	Normal	NSW_0026_PFASOMP	0.08	0.06	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_201102	2/11/2020	Normal	NSW_0026_PFASOMP	0.02	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_210210	10/02/2021	Normal	NSW_0026_PFASOMP	0.02	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_210811	11/08/2021	Normal	NSW_0026_PFASOMP	0.05	0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	0026_SW001_220208	8/02/2022	Normal	NSW_0026_PFASOMP	0.09	0.05	<0.01	0.04	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW001	SW01	SW01_270619	27/06/2019	Normal	NSW_0026_FSBGME	2.33	0.97	0.05	1.36	0.14	0.13	0.04	<0.02	<0.02	<0.1	0.18	0.39	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.28	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_QC104_200827	27/08/2020	Field_D	NSW_0026_PFASOMP	0.10	0.10	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_QC164_161114	15/11/2016	Field_D	NSW_0026_PFAS	-	0.03	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_QC164_161114	15/11/2016	Field_D	NSW_0026_PFAS	-	0.03	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_QC174_161217	17/12/2016	Field_D	NSW_0026_PFAS	-	0.05	<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_QC179_170209	9/02/2017	Field_D	NSW_0026_PFAS	-	0.03	<0.01	0.01	<0.01	-	-	0.04	<0.01	<0.05	<0.01	<0.01	<0.01	0.01	0.05	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	SW02	0026_QC201_210210	10/02/2021	Interlab_D	NSW_0026_PFASOMP	-	<0.02	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW002	SW02	0026_QC202_220208	8/02/2022	Interlab_D	NSW_0026_PFASOMP	0.04	0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.02	<0.01	<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
SW002	SW02	0026_QC244_161114	15/11/2016	Field_D	NSW_0026_PFAS	-	0.03	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_QC248_161217	17/12/2016	Interlab_D	NSW_0026_PFAS	0.10	0.04	0.01	0.06	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW02_161115	15/11/2016	Normal	NSW_0026_PFAS	-	0.03	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_SW02_161213	13/12/2016	Normal	NSW_0026_PFAS	-	0.03	0.04	0.02	<0.01	-	-	<0.01	0.01	<0.05	<0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	SW02	0026_SW02_161217	17/12/2016	Normal	NSW_0026_PFAS	-	0.04	<0.01	0.02	<0.01	-	-	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_SW02_170209	9/02/2017	Normal	NSW_0026_PFAS	-	0.03	<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	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW002	SW02	0026_SW02_170403	31/03/2017	Normal	NSW_0026_PFAS	-	0.03	<0.01	0.05	<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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW002	SW02	0026_SW02_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.05	0.02	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW02_200226	26/02/2020	Normal	NSW_0026_PFASOMP	0.12	0.08	<0.01	0.04	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_200520	20/05/2020	Normal	NSW_0026_PFASOMP	0.06	0.03	<0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_200714	14/07/2020	Normal	NSW_0026_PFASOMP	0.02	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_200827	27/08/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_201102	2/11/2020	Normal	NSW_0026_PFASOMP	0.03	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_210210	10/02/2021	Normal	NSW_0026_PFASOMP	0.01	0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_210811	11/08/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	0026_SW002_220208	8/02/2022	Normal	NSW_0026_PFASOMP	0.06	0.02	<0.01	0.04	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW002	SW02	SW02_270619	27/06/2019	Normal	NSW_0026_FSBGME	1.94	0.75	0.04	1.19	0.12	0.11	0.03	<0.02	<0.02	<0.1	0.21	0.4	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.37	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	SW03/04B	0026_QC200_210811	11/08/2021	Interlab_D	NSW_0026_PFASOMP	-	<0.02	<0.01	<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	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW004B	SW03/04B	0026_QC204_200827	27/08/2020	Interlab_D	NSW_0026_PFASOMP	0.44	0.30	<0.01	0.14	0.02	0.02	<0.01	<0.02	<0.01	<0.02	<0.02	0.03	<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
SW004B	SW03/04B	0026_SW04B_191211	10/12/2019	Normal	NSW_0026_PFASOMP	0.13	0.05	<0.01	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	SW03/04B	0026_SW04B_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.69	0.38	0.02	0.31	0.05	0.04	<0.02	<0.02	<0.02	<0.1	0.04	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
SW004B	SW03/04B	0026_SW04B_200226	26/02/2020	Normal	NSW_0026_PFASOMP	0.53	0.31	0.01	0.22	0.03	0.02	<0.02	<0.02	<0.02	<0.1	0.03	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
SW004B	SW03/04B	0026_SW04B_200520	20/05/2020	Normal	NSW_0026_PFASOMP	1.45	0.86	0.03	0.59	0.10	0.08	0.02	<0.02	<0.02	<0.1	0.07	0.16	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	SW03/04B	0026_SW004B_200714	14/07/2020	Normal	NSW_0026_PFASOMP	0.80	0.36	0.02	0.44	0.06	0.05	<0.02	<0.02	<0.02	<0.1	0.04	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
SW004B	SW03/04B	0026_SW04B_200827	27/08/2020	Normal	NSW_0026_PFASOMP	0.61	0.46	<0.01	0.15	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	SW03/04B	0026_SW004B_201102	2/11/2020	Normal	NSW_0026_PFASOMP	0.79	0.35	0.02	0.44	0.06	0.06	<0.02	<0.02	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

AECOM

Table T6 - Historical Surfacewater Analytical Tables

Location Code	Alternative Name	Field ID	Date	Sample Type	Project	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS - Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0001	0.0002	0.0002	0.0004	0.001	0.001	0.001	0.001	0.002	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.001	0.001	0.0004	0.0004	0.001	0.005	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**2**		**10**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
SW004B	SW03/04B	0026_SW004B_210210	10/02/2021	Normal	NSW_0026_PFASOMP	0.65	0.41	0.02	0.24	0.04	0.03	<0.02	<0.02	<0.02	<0.1	0.02	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
SW004B	SW03/04B	0026_SW004B_210811	11/08/2021	Normal	NSW_0026_PFASOMP	0.38	0.20	<0.01	0.18	0.02	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW004B	SW03/04B	0026_SW004B_220208	8/02/2022	Normal	NSW_0026_PFASOMP	0.33	0.19	<0.01	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW05_161114	14/11/2016	Normal	NSW_0026_PFAS	-	3.5	0.20	2.3	0.30	-	-	<0.01	0.01	0.31	0.89	6.8	0.21	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21	0.02	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	SW05	0026_SW05_161212	12/12/2016	Normal	NSW_0026_PFAS	-	2.6	0.09	1.3	0.15	-	-	<0.01	<0.01	0.07	0.24	0.59	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	SW05	0026_SW05_161217	17/12/2016	Normal	NSW_0026_PFAS	-	0.71	0.01	0.22	0.06	-	-	<0.01	<0.01	<0.05	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW005	SW05	0026_SW05_170209	9/02/2017	Normal	NSW_0026_PFAS	-	3.4	0.11	1.1	0.15	-	-	<0.01	<0.01	0.10	0.11	0.54	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW005	SW05	0026_SW05_170329	29/03/2017	Normal	NSW_0026_PFAS	-	3.6	0.15	2.8	0.25	0.2	0.09	<0.01	<0.01	0.14	0.22	0.81	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.36	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW005	SW05	0026_SW05_191211	10/12/2019	Normal	NSW_0026_PFASOMP	**4.64**	1.68	0.06	2.96	0.31	0.32	0.08	<0.02	<0.02	0.1	0.22	0.78	0.08	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW05_200211	11/02/2020	Normal	NSW_0026_PFASOMP	**2.66**	1.64	0.05	1.02	0.15	0.12	0.03	<0.02	<0.02	<0.1	0.12	0.29	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW05_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**5.58**	3.86	0.11	1.72	0.23	0.20	0.07	0.05	<0.02	<0.1	0.26	0.56	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**6.53**	3.65	0.16	2.88	0.45	0.40	0.13	<0.02	<0.02	<0.1	0.31	0.85	0.16	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_200714	14/07/2020	Normal	NSW_0026_PFASOMP	**4.04**	1.95	0.10	2.09	0.25	0.26	0.08	<0.02	<0.02	<0.1	0.19	0.67	0.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_200827	27/08/2020	Normal	NSW_0026_PFASOMP	**4.70**	2.43	0.13	2.27	0.29	0.34	0.10	<0.02	<0.02	<0.1	0.16	0.64	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_201102	2/11/2020	Normal	NSW_0026_PFASOMP	**7.15**	4.23	0.17	2.92	0.37	0.35	0.13	<0.02	<0.02	0.1	0.18	0.81	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_210209	9/02/2021	Normal	NSW_0026_PFASOMP	**4.49**	2.84	0.14	1.65	0.32	0.24	0.08	<0.02	<0.02	<0.1	0.13	0.58	0.12	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_210811	11/08/2021	Normal	NSW_0026_PFASOMP	**12.9**	6.36	0.47	6.52	1.29	1.40	0.29	0.07	<0.02	0.2	0.47	2.67	0.38	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW005	SW05	0026_SW005_220208	8/02/2022	Normal	NSW_0026_PFASOMP	**4.42**	2.61	0.13	1.81	0.20	0.22	0.08	<0.02	<0.02	<0.1	0.12	0.55	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_QC101_210811	11/08/2021	Field_D	NSW_0026_PFASOMP	**8.44**	5.24	0.18	3.20	0.30	0.40	0.18	<0.02	<0.02	<0.1	0.11	0.59	0.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_QC160_160502	2/05/2016	Field_D	NSW_0026_PFAS	-	0.22	0.05	0.94	0.15	-	-	<0.01	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_160502	2/05/2016	Normal	NSW_0026_PFAS	-	0.33	0.05	0.89	0.15	-	-	<0.01	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_161031	31/10/2016	Normal	NSW_0026_PFAS	-	2.7	0.10	1.9	0.23	-	-	<0.01	<0.01	0.15	0.31	1.4	0.10	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	12	0.06	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_161114	14/11/2016	Normal	NSW_0026_PFAS	-	13	0.16	2.2	0.16	-	-	<0.01	<0.01	0.05	0.10	0.45	0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	0.08	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_161212	12/12/2016	Normal	NSW_0026_PFAS	-	3.7	0.11	2.2	0.23	-	-	<0.01	<0.01	0.10	0.33	0.74	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	0.02	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_161216	16/12/2016	Normal	NSW_0026_PFAS	-	5.0	0.10	1.2	0.13	-	-	<0.01	<0.01	0.06	0.07	0.40	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.80	0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_170209	9/02/2017	Normal	NSW_0026_PFAS	-	6.4	0.20	2.0	0.28	-	-	<0.01	<0.01	0.14	0.13	0.92	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW006	BRD/SW06	0026_SW06_191211	10/12/2019	Normal	NSW_0026_PFASOMP	**4.53**	1.10	0.04	3.43	0.26	0.31	0.08	<0.02	<0.02	<0.1	0.09	0.41	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW06_200211	11/02/2020	Normal	NSW_0026_PFASOMP	**3.76**	2.10	0.09	1.66	0.30	0.24	0.08	<0.02	<0.02	<0.1	0.16	0.47	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW06_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**8.28**	5.98	0.13	2.30	0.28	0.27	0.10	0.02	<0.02	<0.1	0.18	0.56	0.08	<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
SW006	BRD/SW06	0026_SW006_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**6.59**	4.35	0.10	2.24	0.23	0.26	0.13	<0.02	<0.02	<0.1	0.16	0.44	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_200714	14/07/2020	Normal	NSW_0026_PFASOMP	**2.85**	1.53	0.05	1.32	0.15	0.16	0.04	<0.02	<0.02	<0.1	0.06	0.29	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**7.57**	4.04	0.16	3.53	0.39	0.47	0.18	<0.02	<0.02	<0.1	0.16	0.79	0.10	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_201102	2/11/2020	Normal	NSW_0026_PFASOMP	**7.76**	4.19	0.20	3.57	0.45	0.45	0.15	<0.02	<0.02	0.1	0.20	1.00	0.14	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_210209	9/02/2021	Normal	NSW_0026_PFASOMP	**15.3**	13.0	0.22	2.30	0.31	0.27	0.22	0.08	0.02	<0.1	0.08	0.54	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_210811	11/08/2021	Normal	NSW_0026_PFASOMP	**8.35**	4.87	0.21	3.48	0.36	0.45	0.18	<0.02	<0.02	<0.1	0.16	0.74	0.11	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW006	BRD/SW06	0026_SW006_220208	8/02/2022	Normal	NSW_0026_PFASOMP	**4.43**	2.48	0.10	1.95	0.20	0.21	0.08	<0.02	<0.02	<0.1	0.15	0.74	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	2.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	SW07	0026_QC100_201102	2/11/2020	Field_D	NSW_0026_PFASOMP	1.42	0.62	0.02	0.80	0.07	0.08	0.02	<0.02	<0.02	<0.1	<0.02	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
SW007	SW07	0026_SW07_161214	14/12/2016	Normal	NSW_0026_PFAS	-	3.6	0.12	1.1	0.13	-	-	<0.01	0.02	0.30	1.4	1.8	0.42	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.3	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW007	SW07	0026_SW07_161216	16/12/2016	Normal	NSW_0026_PFAS	-	0.59	0.02	0.43	0.03	-	-	<0.01	<0.01	<0.05	0.03	0.09	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW007	SW07	0026_SW07_170208	8/02/2017	Normal	NSW_0026_PFAS	-	2.7	0.06	0.67	0.08	-	-	<0.01	<0.01	<0.05	0.05	0.26	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW007	SW07	0026_SW07_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.72	0.36	0.02	0.36	0.07	0.05	<0.02	<0.02	<0.02	<0.1	0.04	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
SW007	SW07	0026_SW07_200226	26/02/2020	Normal	NSW_0026_PFASOMP	1.73	1.11	0.04	0.62	0.11	0.08	0.02	<0.02	<0.02	<0.1	0.17	0.26	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	SW07	0026_SW007_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**3.47**	1.50	0.04	1.97	0.18	0.24	0.08	<0.02	<0.02	<0.1	0.04	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
SW007	SW07	0026_SW007_200714	14/07/2020	Normal	NSW_0026_PFASOMP	0.76	0.39	0.01	0.37	0.03	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	SW07	0026_SW007_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**2.28**	0.94	0.03	1.34	0.14	0.16	0.05	<0.02	<0.02	<0.1	0.02	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
SW007	SW07	0026_SW007_201102	2/11/2020	Normal	NSW_0026_PFASOMP	1.57	0.73	0.02	0.84	0.08	0.08	0.03	<0.02	<0.02	<0.1	0.02	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
SW007	SW07	0026_SW007_210211	11/02/2021	Normal	NSW_0026_PFASOMP	0.65	0.47	0.01	0.18	0.03	0.02	<0.02	<0.02	<0.02	<0.1	0.06	0.10	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW007	SW07	0026_SW007_210811	11/08/2021	Normal	NSW_0026_PFASOMP	1.18	0.25	0.02	0.93	0.13	0.13	0.02	<0.02	<0.02	<0.1	0.05	0.18	0.03	<0.02	<0.02	<0.02	<0.02	<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 Surfacewater Analytical Tables

Location Code	Alternative Name	Field ID	Date	Sample Type	Project	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS - Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0001	0.0002	0.0002	0.0004	0.001	0.001	0.001	0.001	0.002	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.001	0.001	0.0004	0.0004	0.001	0.005	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**2**		**10**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
Location Code	**Alternative Name**	**Field ID**	**Date**	**Sample Type**	**Project**																													
SW007	SW07	0026_SW007_220207	7/02/2022	Normal	NSW_0026_PFASOMP	0.52	0.28	0.01	0.24	0.04	0.03	<0.02	<0.02	<0.02	<0.1	0.10	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
SW008	SW5/SW08	0026_SW08_160506	6/05/2016	Normal	NSW_0026_PFAS	-	0.42	0.04	0.61	0.06	-	-	<0.01	<0.01	<0.05	0.04	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	SW5/SW08	0026_SW08_161116	16/11/2016	Normal	NSW_0026_PFAS	-	2.0	0.04	0.68	0.07	-	-	<0.01	<0.01	<0.05	0.03	0.22	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	SW5/SW08	0026_SW08_161214	14/12/2016	Normal	NSW_0026_PFAS	-	2.8	0.06	1.5	0.16	-	-	<0.01	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	SW5/SW08	0026_SW08_161217	17/12/2016	Normal	NSW_0026_PFAS	-	2.0	0.03	0.56	0.05	-	-	<0.01	<0.01	<0.05	0.02	0.14	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW008	SW5/SW08	0026_SW08_170209	9/02/2017	Normal	NSW_0026_PFAS	-	1.6	0.04	0.52	0.05	-	-	<0.01	<0.01	<0.05	0.02	0.15	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW008	SW5/SW08	0026_SW08_191210	10/12/2019	Normal	NSW_0026_PFASOMP	**5.30**	0.77	0.10	4.53	0.35	0.27	0.07	<0.02	<0.02	<0.1	0.22	1.55	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	SW5/SW08	0026_SW08_200211	11/02/2020	Normal	NSW_0026_PFASOMP	1.87	1.11	0.02	0.76	0.08	0.06	0.03	<0.02	<0.02	<0.1	0.03	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
SW008	SW5/SW08	0026_SW08_200226	26/02/2020	Normal	NSW_0026_PFASOMP	1.84	0.92	0.04	0.92	0.10	0.09	0.02	<0.02	<0.02	<0.1	0.04	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	SW5/SW08	0026_SW008_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**3.64**	1.90	0.07	1.74	0.14	0.18	0.06	<0.02	<0.02	<0.1	0.08	0.44	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	SW5/SW08	0026_SW008_200714	14/07/2020	Normal	NSW_0026_PFASOMP	1.17	0.82	0.02	0.35	0.02	0.03	<0.02	<0.02	<0.02	<0.1	<0.02	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
SW008	SW5/SW08	0026_SW008_200826	26/08/2020	Normal	NSW_0026_PFASOMP	1.70	0.80	0.03	0.90	0.10	0.12	0.03	<0.02	<0.02	<0.1	0.03	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
SW008	SW5/SW08	0026_SW008_201102	2/11/2020	Normal	NSW_0026_PFASOMP	1.78	1.06	0.03	0.72	0.07	0.07	0.03	<0.02	<0.02	<0.1	<0.02	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
SW008	SW5/SW08	0026_SW008_210208	8/02/2021	Normal	NSW_0026_PFASOMP	**3.37**	2.49	0.05	0.88	0.11	0.09	0.04	<0.02	<0.02	<0.1	0.03	0.22	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	SW5/SW08	0026_SW008_210811	11/08/2021	Normal	NSW_0026_PFASOMP	1.21	0.51	0.04	0.70	0.13	0.13	<0.02	<0.02	<0.02	<0.1	0.05	0.24	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW008	SW5/SW08	0026_SW008_220210	10/02/2022	Normal	NSW_0026_PFASOMP	**4.26**	2.21	0.10	2.05	0.19	0.24	0.07	<0.02	<0.02	<0.1	0.09	0.55	0.05	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_QC100_210811	11/08/2021	Field_D	NSW_0026_PFASOMP	**3.48**	1.92	0.07	1.56	0.17	0.16	0.07	<0.02	<0.02	<0.1	0.07	0.35	0.05	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW09_161115	15/11/2016	Normal	NSW_0026_PFAS	-	3.8	0.06	0.95	0.09	-	-	<0.01	<0.01	<0.05	0.04	0.29	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	SW09	0026_SW09_161116	16/11/2016	Normal	NSW_0026_PFAS	-	3.7	0.07	1.0	0.10	-	-	<0.01	<0.01	<0.05	0.04	0.29	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	SW09	0026_SW09_161212	12/12/2016	Normal	NSW_0026_PFAS	-	3.2	0.05	0.73	0.06	-	-	<0.01	<0.01	<0.05	0.03	0.17	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW009	SW09	0026_SW09_161216	16/12/2016	Normal	NSW_0026_PFAS	-	25	0.52	5.3	0.84	-	-	<0.01	0.01	0.27	0.25	2.0	0.16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW009	SW09	0026_SW09_170209	9/02/2017	Normal	NSW_0026_PFAS	-	23	0.51	5.1	0.63	-	-	<0.01	0.01	0.29	0.23	2.1	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW009	SW09	0026_SW09_191211	10/12/2019	Normal	NSW_0026_PFASOMP	**2.34**	1.34	0.03	1.00	0.15	0.07	0.04	<0.02	<0.02	<0.1	0.03	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW09_200211	11/02/2020	Normal	NSW_0026_PFASOMP	**34.4**	25.4	0.35	8.95	0.42	0.57	0.36	0.04	<0.02	0.1	0.31	1.39	0.13	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW09_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**24.0**	16.9	0.30	7.07	0.41	0.51	0.29	<0.02	<0.02	<0.1	0.30	1.28	0.13	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW009_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**9.37**	7.04	0.42	2.33	0.25	0.18	0.14	<0.02	0.05	<0.1	0.12	0.54	0.09	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	SW09	0026_SW009_200714	14/07/2020	Normal	NSW_0026_PFASOMP	**3.89**	2.56	0.07	1.33	0.12	0.11	0.07	<0.02	<0.02	<0.1	0.07	0.41	0.06	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW009	SW09	0026_SW009_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**23.4**	15.8	0.28	7.60	0.42	0.66	0.35	<0.02	<0.02	0.1	0.26	1.31	0.13	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW009_201102	2/11/2020	Normal	NSW_0026_PFASOMP	**17.3**	12.7	0.19	4.57	0.33	0.29	0.19	0.02	<0.02	<0.1	0.18	0.87	0.09	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW009_210208	8/02/2021	Normal	NSW_0026_PFASOMP	**8.74**	6.66	0.16	2.08	0.27	0.26	0.12	<0.02	<0.02	<0.1	0.13	0.73	0.12	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW009_210811	11/08/2021	Normal	NSW_0026_PFASOMP	**3.64**	2.03	0.07	1.61	0.17	0.16	0.06	<0.02	<0.02	<0.1	0.08	0.35	0.04	<0.02	<0.02	<0.02	<0.02	<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	SW09	0026_SW009_220209	9/02/2022	Normal	NSW_0026_PFASOMP	**16.6**	11.8	0.19	4.78	0.32	0.41	0.22	0.03	<0.02	0.1	0.23	1.23	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_QC100_191210	10/12/2019	Field_D	NSW_0026_PFASOMP	1.12	0.83	0.01	0.29	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_QC100_200211	11/02/2020	Field_D	NSW_0026_PFASOMP	0.43	0.20	<0.01	0.23	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_QC171_161214	14/12/2016	Field_D	NSW_0026_PFAS	-	2.9	0.10	2.0	0.28	-	-	<0.01	<0.01	0.06	0.05	0.44	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_SW12_160506	6/05/2016	Normal	NSW_0026_PFAS	-	0.43	0.05	0.98	0.19	-	-	<0.01	<0.01	<0.05	0.05	0.23	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_SW12_161116	16/11/2016	Normal	NSW_0026_PFAS	-	2.6	0.09	1.8	0.27	-	-	<0.01	<0.01	0.06	0.07	0.47	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_SW12_161214	14/12/2016	Normal	NSW_0026_PFAS	-	2.2	0.08	2.0	0.27	-	-	<0.01	<0.01	<0.05	0.04	0.35	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_SW12_161217	17/12/2016	Normal	NSW_0026_PFAS	-	2.3	0.09	1.9	0.27	-	-	<0.01	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_SW12_170209	9/02/2017	Normal	NSW_0026_PFAS	-	4.3	0.09	1.3	0.19	-	-	<0.01	<0.01	0.06	0.06	0.34	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW012	SW6/SW12	0026_SW12_191210	10/12/2019	Normal	NSW_0026_PFASOMP	1.14	0.84	0.01	0.30	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW12_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.34	0.13	<0.01	0.21	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW12_200226	26/02/2020	Normal	NSW_0026_PFASOMP	0.30	0.08	<0.01	0.22	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW012_200714	14/07/2020	Normal	NSW_0026_PFASOMP	0.02	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW012_200826	26/08/2020	Normal	NSW_0026_PFASOMP	0.29	0.10	<0.01	0.19	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW012_210208	8/02/2021	Normal	NSW_0026_PFASOMP	0.03	0.03	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW012_210811	11/08/2021	Normal	NSW_0026_PFASOMP	0.05	0.03	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW012	SW6/SW12	0026_SW012_220210	10/02/2022	Normal	NSW_0026_PFASOMP	2.61	1.18	0.06	1.43	0.18	0.18	0.05	<0.02	<0.02	<0.1	0.06	0.26	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05

AECOM

Table T6 - Historical Surfacewater Analytical Tables

Location Code	Alternative Name	Field ID	Date	Sample Type	Project	PFAS - Full Suite																												
						Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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						0.0002	0.0001	0.0002	0.0002	0.0004	0.001	0.001	0.001	0.001	0.002	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.001	0.001	0.0004	0.0004	0.001	0.005	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**2**		**10**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
SW013	SW13	0026_QC100_200520	20/05/2020	Field_D	NSW_0026_PFASOMP	3.21	1.47	0.08	1.74	0.22	0.23	0.07	<0.02	<0.02	<0.1	0.10	0.35	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
SW013	SW13	0026_QC100_200714	14/07/2020	Field_D	NSW_0026_PFASOMP	3.14	1.12	0.06	2.02	0.23	0.25	0.06	<0.02	<0.02	<0.1	0.10	0.50	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_QC101_200226	26/02/2020	Field_D	NSW_0026_PFASOMP	3.10	1.55	0.08	1.55	0.16	0.15	0.05	<0.02	<0.02	<0.1	0.11	0.38	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_QC102_220208	8/02/2022	Field_D	NSW_0026_PFASOMP	2.59	1.15	0.06	1.44	0.17	0.17	0.05	<0.02	<0.02	<0.1	0.06	0.31	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_QC103_200826	26/08/2020	Field_D	NSW_0026_PFASOMP	1.44	0.62	0.03	0.82	0.10	0.11	0.03	<0.02	<0.02	<0.1	0.03	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_QC200_191211	12/11/2019	Interlab_D	NSW_0026_PFASOMP	-	0.83	0.064	1.8	0.27	0.22	0.034	<0.01	<0.01	0.086	0.13	0.46	0.067	<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
SW013	SW13	0026_QC200_200211	11/02/2020	Interlab_D	NSW_0026_PFASOMP	-	0.61	0.019	0.57	0.064	0.059	0.016	<0.01	<0.01	<0.05	0.031	0.10	0.014	<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
SW013	SW13	0026_QC200_201102	2/11/2020	Interlab_D	NSW_0026_PFASOMP	-	0.53	0.021	0.61	0.071	0.061	0.015	<0.01	<0.01	<0.05	0.027	0.1	0.015	<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
SW013	SW13	0026_SW13_161114	14/11/2016	Normal	NSW_0026_PFAS	-	2.7	0.07	1.7	0.27	-	-	<0.01	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW013	SW13	0026_SW13_161213	13/12/2016	Normal	NSW_0026_PFAS	-	<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	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW013	SW13	0026_SW13_161216	16/12/2016	Normal	NSW_0026_PFAS	-	2.3	0.05	1.0	0.12	-	-	<0.01	<0.01	<0.05	0.04	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW013	SW13	0026_SW13_170208	8/02/2017	Normal	NSW_0026_PFAS	-	0.64	0.02	0.29	0.03	-	-	<0.01	<0.01	<0.05	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW013	SW13	0026_SW13_170328	28/03/2017	Normal	NSW_0026_PFAS	-	2.2	0.06	1.5	0.12	0.11	0.05	<0.01	<0.01	<0.05	0.07	0.27	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SW013	SW13	0026_SW13_191211	10/12/2019	Normal	NSW_0026_PFASOMP	3.62	0.78	0.06	2.84	0.36	0.30	0.05	<0.02	<0.02	<0.1	0.12	0.76	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW13_200211	11/02/2020	Normal	NSW_0026_PFASOMP	1.53	0.82	0.03	0.71	0.08	0.07	0.02	<0.02	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW13_200226	26/02/2020	Normal	NSW_0026_PFASOMP	2.95	1.41	0.08	1.54	0.17	0.15	0.05	<0.02	<0.02	<0.1	0.11	0.39	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW013_200520	20/05/2020	Normal	NSW_0026_PFASOMP	3.41	1.57	0.07	1.84	0.24	0.23	0.08	<0.02	<0.02	<0.1	0.10	0.35	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
SW013	SW13	0026_SW013_200714	14/07/2020	Normal	NSW_0026_PFASOMP	3.41	1.18	0.07	2.23	0.23	0.26	0.06	<0.02	<0.02	<0.1	0.10	0.51	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW013_200826	26/08/2020	Normal	NSW_0026_PFASOMP	1.54	0.78	0.03	0.76	0.10	0.10	0.03	<0.02	<0.02	<0.1	0.03	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
SW013	SW13	0026_SW013_201102	2/11/2020	Normal	NSW_0026_PFASOMP	1.61	0.84	0.03	0.77	0.09	0.08	0.03	<0.02	<0.02	<0.1	0.03	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
SW013	SW13	0026_SW013_210208	8/02/2021	Normal	NSW_0026_PFASOMP	3.55	2.25	0.08	1.30	0.25	0.18	0.06	<0.02	<0.02	<0.1	0.07	0.35	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW013_210811	11/08/2021	Normal	NSW_0026_PFASOMP	3.66	1.22	0.08	2.44	0.30	0.31	0.07	<0.02	<0.02	<0.1	0.09	0.44	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW013	SW13	0026_SW013_220208	8/02/2022	Normal	NSW_0026_PFASOMP	3.18	1.64	0.07	1.54	0.18	0.18	0.06	<0.02	<0.02	<0.1	0.07	0.32	0.04	<0.02	<0.02	<0.02	<0.02	<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	SW14	0026_QC200_140720	14/07/2020	Interlab_D	NSW_0026_PFASOMP	-	<0.02	<0.01	<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	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW014	SW14	0026_QC201_210811	11/08/2021	Interlab_D	NSW_0026_PFASOMP	-	0.14	<0.01	0.14	0.019	0.016	<0.01	<0.01	<0.01	<0.05	<0.02	0.028	<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
SW014	SW14	0026_QC203_200826	26/08/2020	Interlab_D	NSW_0026_PFASOMP	0.06	0.03	<0.01	0.03	<0.01	<0.01	<0.01	<0.02	<0.01	<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
SW014	SW14	0026_SW14_161114	14/11/2016	Normal	NSW_0026_PFAS	-	<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	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW014	SW14	0026_SW14_161213	13/12/2016	Normal	NSW_0026_PFAS	-	<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	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW014	SW14	0026_SW14_161216	16/12/2016	Normal	NSW_0026_PFAS	-	3.1	0.08	1.8	0.22	-	-	<0.01	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW014	SW14	0026_SW14_170208	8/02/2017	Normal	NSW_0026_PFAS	-	0.57	0.02	0.21	0.02	-	-	<0.01	<0.01	<0.05	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW014	SW14	0026_SW14_170328	28/03/2017	Normal	NSW_0026_PFAS	-	0.25	0.01	0.21	0.02	0.02	<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
SW014	SW14	0026_SW14_191211	10/12/2019	Normal	NSW_0026_PFASOMP	2.80	0.78	0.04	2.02	0.24	0.21	0.05	<0.02	<0.02	<0.1	0.07	0.43	0.04	<0.02	<0.02	<0.02	<0.02	<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	SW14	0026_SW14_200211	11/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW14_200226	26/02/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_200520	20/05/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_200714	14/07/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_200826	26/08/2020	Normal	NSW_0026_PFASOMP	0.07	0.03	<0.01	0.04	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_201102	2/11/2020	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_210208	8/02/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_210811	11/08/2021	Normal	NSW_0026_PFASOMP	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW014	SW14	0026_SW014_220208	8/02/2022	Normal	NSW_0026_PFASOMP	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_QC173_161216	16/12/2016	Field_D	NSW_0026_PFAS	-	2.5	0.10	1.2	0.16	-	-	<0.01	<0.01	0.06	0.06	0.43	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.89	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	SW18	0026_QC177_170208	8/02/2017	Field_D	NSW_0026_PFAS	-	3.7	0.09	0.97	0.12	-	-	<0.01	<0.01	0.05	0.05	0.32	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW018	SW18	0026_QC201_200226	26/02/2020	Interlab_D	NSW_0026_PFASOMP	-	1.8	0.074	1.7	0.23	0.19	0.052	<0.01	<0.01	0.092	0.12	0.41	0.053	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05
SW018	SW18	0026_SW18_161116	16/11/2016	Normal	NSW_0026_PFAS	-	8.6	0.28	6.1	0.97	-	-	<0.01	<0.01	0.12	0.18	1.3	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	SW18	0026_SW18_161216	16/12/2016	Normal	NSW_0026_PFAS	-	2.3	0.10	1.1	0.14	-	-	<0.01	<0.01	0.07	0.06	0.42	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.90	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW018	SW18	0026_SW18_170208	8/02/2017	Normal	NSW_0026_PFAS	-	3.7	0.09	0.93	0.11	-	-	<0.01	<0.01	<0.05	0.04	0.32	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW018	SW18	0026_SW18_200211	11/02/2020	Normal	NSW_0026_PFASOMP	4.00	2.28	0.09	1.72	0.29	0.23	0.08	<0.02	<0.02	<0.1	0.14	0.48	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

Table T6 - Historical Surfacewater Analytical Tables

Location Code	Alternative Name	Field ID	Date	Sample Type	Project	Sum of PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorononanoic acid (PFNA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	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)
						PFAS - Full Suite																												
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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						0.0002	0.0001	0.0002	0.0002	0.0004	0.001	0.001	0.001	0.001	0.002	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.001	0.001	0.0004	0.0004	0.001	0.005	0.005	0.002	0.005	0.005	0.002	0.005
PFAS NEMP 2020 Recreational Water						**2**		**10**																										
PFAS NEMP 2020 Freshwater 99%							*0.00023*	*19*																										
SW018	SW18	0026_SW18_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**3.72**	*2.18*	0.11	1.54	0.26	0.21	0.07	<0.02	<0.02	<0.1	0.14	0.46	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**15.4**	*7.16*	0.50	8.29	1.66	1.68	0.40	<0.02	0.03	0.4	0.69	2.99	0.46	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_200714	14/07/2020	Normal	NSW_0026_PFASOMP	**1.27**	*0.71*	0.02	0.56	0.05	0.06	0.02	<0.02	<0.02	<0.1	0.04	0.14	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**2.96**	*0.80*	0.05	2.16	0.23	0.31	0.05	<0.02	<0.02	<0.1	0.08	0.35	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_201102	2/11/2020	Normal	NSW_0026_PFASOMP	**10.2**	*5.02*	0.29	5.19	0.71	0.71	0.19	<0.02	<0.02	0.2	0.30	1.59	0.21	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_210211	11/02/2021	Normal	NSW_0026_PFASOMP	**13.0**	*8.25*	0.31	4.72	0.63	0.63	0.27	0.02	<0.02	0.1	0.21	1.14	0.26	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_210811	11/08/2021	Normal	NSW_0026_PFASOMP	**2.67**	*0.52*	0.06	2.15	0.32	0.37	0.04	<0.02	<0.02	<0.1	0.12	0.51	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW018	SW18	0026_SW018_220207	7/02/2022	Normal	NSW_0026_PFASOMP	**7.09**	*3.82*	0.19	3.27	0.44	0.46	0.13	<0.02	<0.02	0.1	0.18	0.85	0.09	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	SW20	0026_QC166_161212	12/12/2016	Field_D	NSW_0026_PFAS	-	*1.6*	0.04	1.9	0.15	-	-	<0.01	<0.01	<0.05	0.03	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	SW20	0026_QC166_161212	12/12/2016	Field_D	NSW_0026_PFAS	-	*1.5*	0.05	2.0	0.18	-	-	<0.01	<0.01	<0.05	0.03	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	SW20	0026_QC200_200520	20/05/2020	Interlab_D	NSW_0026_PFASOMP	-	*0.82*	0.064	1.1	0.071	0.075	0.024	<0.01	<0.01	<0.05	<0.02	0.10	0.011	<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
SW020	SW20	0026_SW20_161212	12/12/2016	Normal	NSW_0026_PFAS	-	*0.48*	<0.01	0.20	0.02	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	SW20	0026_SW20_161216	16/12/2016	Normal	NSW_0026_PFAS	-	*1.0*	0.05	2.1	0.16	-	-	<0.01	<0.01	<0.05	0.03	0.19	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-
SW020	SW20	0026_SW20_170209	9/02/2017	Normal	NSW_0026_PFAS	-	*1.2*	0.03	0.39	0.03	-	-	<0.01	<0.01	<0.05	0.02	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-
SW020	SW20	0026_SW20_200211	11/02/2020	Normal	NSW_0026_PFASOMP	0.74	*0.35*	0.01	0.39	0.04	0.04	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	SW20	0026_SW20_200226	26/02/2020	Normal	NSW_0026_PFASOMP	**2.05**	*0.89*	0.03	1.16	0.12	0.11	0.03	<0.02	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	SW20	0026_SW020_200520	20/05/2020	Normal	NSW_0026_PFASOMP	**2.87**	*1.47*	0.11	1.40	0.11	0.14	0.06	<0.02	<0.02	<0.1	0.03	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
SW020	SW20	0026_SW020_200714	14/07/2020	Normal	NSW_0026_PFASOMP	0.79	*0.48*	0.01	0.31	<0.02	0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	SW20	0026_SW020_200826	26/08/2020	Normal	NSW_0026_PFASOMP	**2.02**	*0.78*	0.03	1.24	0.11	0.14	0.04	<0.02	<0.02	<0.1	<0.02	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
SW020	SW20	0026_SW020_201102	2/11/2020	Normal	NSW_0026_PFASOMP	1.46	*0.75*	0.02	0.71	0.07	0.06	0.02	<0.02	<0.02	<0.1	<0.02	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
SW020	SW20	0026_SW020_210209	9/02/2021	Normal	NSW_0026_PFASOMP	**2.28**	*1.13*	0.03	1.15	0.14	0.13	0.04	<0.02	<0.02	<0.1	<0.02	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
SW020	SW20	0026_SW020_210811	11/08/2021	Normal	NSW_0026_PFASOMP	**3.29**	*1.34*	0.05	1.95	0.15	0.19	0.07	<0.02	<0.02	<0.1	0.04	0.23	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05
SW020	SW20	0026_SW020_220208	8/02/2022	Normal	NSW_0026_PFASOMP	**2.35**	*0.99*	0.04	1.36	0.12	0.13	0.04	<0.02	<0.02	<0.1	0.03	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

Notes:

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

Appendix C

Calibration Certificates

Oil / Water Interface Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Instrument Geotech Interface Meter (30M)
Serial No. 3908

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: Darcy Keogh

Calibration date: 3/02/2022

Next calibration due: 4/04/2022

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **18G103117**

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		368081	pH 7.02
2. pH 4.00		pH 4.00		380327	pH 4.02
3. pH 10.00		pH 10.00		370064	pH 10.01
4. mV		229.6mV		365451/370891	229.8mV
5. EC		2.76ms		377099	2.78mS
6. D.O		0.00 ppm		371864	0.04ppm
7. Temp		22.4°C		MultiThem	22.2°C

Calibrated by: **Evan Weller**

Calibration date: **3-Feb-22**

Next calibration due: **5-Jul-22**

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Feb 2022 GW and SW Sampling Eve	**Project Number:**	60612562_3.1
Project Location:	HMAS Albatross	**Client:**	Department of Defence
PM Name:	Geoff Tredinnick	**Fieldwork Staff Name:**	Andrew Spoor, Jessica Roy

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

INSTRUMENT DETAILS

Supplier:	YSI Professional Plus
Make and Model:	Air met
Serial Number:	18G 103117

CALIBRATION / BUMP TEST

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	7/2/.22 9.30 AM				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2549 *	0.0	
Calibration Reading:	4.05	7.05	2590	0.0	
Calibration Temperature:	21.0	21.3	21.3	21.0	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	8/2/22 7.00 AM				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2391 *	0.0	
Bump Test Reading:	3.98	7.05	2401	0.0	
Bump Test Temperature:	18.7	18.7	18.7	18.7	

COMMENTS

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

* cond. standard based on Temperature

Approval and Distribution

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

Fieldwork Staff Signature

8/2/22

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Feb 2022 GW and SW Sampling Eve	**Project Number:**	60612562_3.1
Project Location:	HMAS Albatross	**Client:**	Department of Defence
PM Name:	Geoff Tredinnick	**Fieldwork Staff Name:**	Andrew Spoor, Jessica Roy

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

INSTRUMENT DETAILS

Supplier:	YSI Professional Plus
Make and Model:	Airmet
Serial Number:	18G103117

CALIBRATION / BUMP TEST

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	9/2/22 7.00AM				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2444*	0.0	
Calibration Reading:	4.01	7.04	2450	0.0	
Calibration Temperature:	19.0	19.0	19.0	19.0	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	10/2/22 7.00 AM				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4	7	2549	0.0	
Bump Test Reading:	4.02	7.03	2591	0.0	
Bump Test Temperature:	21.0	21.0	21.0	21.0	

COMMENTS

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

* cond. standard based on temperature.

Approval and Distribution

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

[signature] 10/2/2022

Fieldwork Staff Signature **Date**

Distribution: Project Central File

Appendix D

Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	[redacted]	Date:	03/03/2022
Client:	Department of Defence				
		Data verified by:	[redacted]	Date:	04/03/2022
Site:	HMAS Albatross				
Matrix type:	Water	Project Manager:	[redacted]		
Primary samples:	26 Groundwater samples 13 Surface water samples				
Laboratory:	ALS, Envirolab				
Lab reference:	ES2204623, ES2204624, ES220462, 288597				

Key Issues:	No issues were identified that have the potential to impact upon the reliability of the results. 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.

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 Jessica Roy and Andrew Spoor between 7 and 11 February 2022, both suitably qualified and experienced AECOM Environmental Scientists.
Sampling Methodology	With the exception of SW001, all surface water samples were collected from directly beneath the surface to limit the infiltration of sediments into samples. Due to access and safety considerations, sample SW001 was collected using a dedicated, disposable bailer, before being decanted into laboratory supplied bottles. The bottles were filled to the top, following laboratory instructions, caps were immediately applied and stored on ice for preservation. The majority of groundwater samples were collected from monitoring wells using a no-purge methodology, HydraSleeves™, which were installed within the screened interval of the wells for a minimum of 24 hours prior to the sampling round. This was based on a review of the well construction log. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. At the request of Defence's Lead Consultant, groundwater samples were collected using low-flow sampling at well locations MW005, MW008, MW009, and MW039 following the temporary removal of continuous water level data loggers within the wells. No HydraSleeves™ were deployed for future sampling rounds. Groundwater samples were collected using dedicated, disposable bailers at well locations MW012P, MW015, MW018, MW026 and MW046 as the HydraSleeves™ had either been removed by a third party prior to AECOM's arrival on site or had failed to deploy. HydraSleeves™ were deployed in these wells for future sampling rounds. As the concentrations of PFAS reported in these samples were either within the historical range for each location (SW001, MW005, MW009, MW012P, MW015, MW018, MW026 and MW046), or within the same order of magnitude of historical results (MW008 and MW039), the change in sampling methodology is not considered to impact upon the reliability of the data for the purposes of the OMP. After each sampling well, the water quality meter was decontaminated using Liquinox and nitrile gloves disposed of, with a new pair used for each sampling location. Dedicated bailers were disposed of, following each use.

DATA VALIDATION REPORT	
Chain of Custody (COC)	All samples were reported as per the Chain of Custody documents (COC).
Rinsate Blank	Rinsate blanks were collected at a rate of one rinsate per day (four in total). concentrations of PFAS were below the laboratory LORs in the rinsate sample analysed indicating that decontamination procedures were appropriate. Rinsate Blank results can be found in Table D2 in Appendix D.
Frequency of field QC	Intra-laboratory duplicates and inter-laboratory duplicates were collected at a frequency of one in ten primary samples. In total, four intra-laboratory duplicates and four inter-laboratory duplicates were collected, meeting the DQI requirements.
Handling and preservation	Primary and duplicate samples for surface water were placed in a chilled esky between sampling and analysis. Samples were received preserved and chilled at the primary laboratory with a recorded temperature of 3.1°C, and at the secondary lab at 5°C, which were within the recommended temperature range (4 ± 2°C).
Calibration of equipment	Measurement of groundwater geochemical parameters was undertaken using the YSI WQM Professional Plus, which was calibrated by the supplier prior to use, in accordance with the manufacturer's instructions. All calibration and service certificates are presented in Appendix C.
Laboratory QA/QC	
Laboratory DQOs and DQIs	The data quality objectives (DQOs) and data quality indicators (DQIs) adopted for these works are presented in the SAQP (AECOM, 2021).
Tests requested/reported	All primary water samples were analysed for the PFAS extended suite. All sample requests of analysis are reported on the Chain of Custody (COC).
Holding time compliance	All samples were extracted and analysed 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 NATA accredited laboratory Envirolab Services Pty Ltd (Sydney) accreditation No. 2901).
Frequency of laboratory QC	The primary laboratory ALS reported a sufficient frequency of quality control samples with the exception of PFAS for laboratory duplicates and matrix spikes. Laboratory Duplicates: • PFAS by LCMSMS | Actual: 6.9% Expected: 10% Matrix Spikes: • PFAS by LCMSMS | Actual: 3.45% Expected: 5% The lower rate of analysis reflects a lack of sample volume rather than analytical data quality issues and does not affect overall data interpretation. AECOM provided the required volume as outlined by ALS bottle requirements. The accuracy of the data can be assessed as acceptable based on method blanks, laboratory control spike and surrogate spike recoveries, which were reported at the required frequencies and within control limits.
Method Blank	All method blank concentrations were reported <LOR for the analytes tested from the primary laboratory, ALS. This is presented in the laboratory Quality Control Reports for both laboratories.
Laboratory duplicate RPDs	The reported laboratory duplicates Relative Percentage Differences (RPD) were within laboratories control limits. The laboratory duplicate RPDs are presented in the laboratory Quality Control Reports for both laboratories.

Laboratory control spike recovery	The reported laboratory Control Spikes (LCS) recoveries were within the laboratories control limits. This is presented in the laboratory Quality Control Report.
Matrix spike recovery	MS recoveries met the DQI, except for PFHxS, PFOS and 6:2 FTS in sample 0026_SW006_220208 in ES2204623, where the MS recovery was not determined as the background level greater than or equal to 4x spike level. The non-determinations do not reflect method bias and do not affect data interpretation, as the accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits).
Surrogate spike recovery	The reported surrogate spike recoveries were within laboratory control limits. This is presented in the laboratory Quality Control Reports for both laboratories.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted. New historical maximums were recorded for various PFAS compounds at monitoring wells MW005, MW008, MW038 and MW039, which were confirmed by the laboratory through re-extraction and analysis.
Data transcription	A check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted human health screening levels and were consistent with Defence (2018) Standard PFAS Analytical Suite requirements. It is noted that the LORs for PFAS compounds were greater than the adopted 99% freshwater ecosystem protection values adopted as ecological screening criteria.

Intra-laboratory duplicate and Inter-laboratory RPDs	Intra-laboratory Duplicate RPDs were reported within the DQIs, with the exception of the following:
	- 0026_SW013_220208 / 0026_QC102_220208
	    o PFOS (35%)
	
	Inter-laboratory RPDs for samples reported within the DQIs, with the exception of the following:
	- 0026_SW002_220208 / 0026_QC202_220208
	    o Sum of PFAS (40%)
	    o Sum of PFHxS and PFOS (40%)
	    o PFOS (67%)
	- 0026_MW044_220209/ 0026_QC203_220209
	    o PFHxA (164%)
	    o PFPeS (143%)
	    o Sum of PFAS (103%)
	    o Sum of PFHxS and PFOS (77%)
	    o PFOS (67%)
	    o PFHxS (78%)
	
	Given there are no adopted guideline values for PFBS,PFHxA, PFPeS and Sum of PFAS the elevated RPDs are not expected to affect the interpretation of results against guidelines.

As the reported concentration for PFOS was well above the adopted guidelines in 0026_SW013_220208, the elevated RPD is not considered to affect the interpretation of results against criteria.

Given that the RPD exceedances for 0026_SW002_210208 were all less than 10x the LOR, AECOM considers that the marginally elevated RPDs do not impact the reliability of the data for the purposes of the OMP.

It should be noted that the elevated concentrations for 0026_MW044_220209 were slightly higher than 20% of the LOR, though elevated RPDs were found to be within the same order of magnitude for each set of samples. Therefore, AECOM considers that the marginally elevated RPDs do not impact the reliability of the data for the purposes of the OMP.

All Relative Percentage Difference results can be found in Table D2 in Appendix D

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.

Attachments:

Table D1: Rinsate Analytical Results

Table D2: Relative Percentage Difference

Table D1 - Rinsate Analytical Results

PFAS Full Suite

Field ID	Date	Sample Type	Lab Report Number	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)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR				**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.02**	**0.05**	**0.05**	**0.02**	**0.05**	**0.02**	**0.1**	**0.02**	**0.02**	**0.02**
0026_QC300_220207	7/02/2022	Rinsate	ES2204623	<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
0026_QC301_220208	8/02/2022	Rinsate	ES2204623	<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
0026_QC302_220209	9/02/2022	Rinsate	ES2204623	<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
0026_QC303_220210	10/02/2022	Rinsate	ES2204623	<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

Field ID	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 PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	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
LOR	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.05**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
0026_QC300_220207	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0026_QC301_220208	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0026_QC302_220209	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
0026_QC303_220210	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table D2 - Relative Percent Difference

Field ID	Date	Matrix Type	Sample Type	Lab Report Number	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 PFHxS and PFOS	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*
					PFAS Full Suite																															
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					**0.02**	**0.01**	**0.01**	**0.02**	**0.05**	**0.02**	**0.05**	**0.05**	**0.02**	**0.05**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.02**	**0.01**	**0.02**	**0.05**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
0026_MW012_220207	7/02/2022	Water	Normal	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
0026_QC100_220207	7/02/2022	Water	Field_D	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-
0026_MW016_220207	7/02/2022	Water	Normal	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
0026_QC200_220207	7/02/2022	WATER	Interlab_D	288597	<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	<0.01	<0.01	<0.01	<0.01	-	<0.01
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
0026_MW002_220208	8/02/2022	Water	Normal	ES2204623	<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	0.09	0.01	<0.01	<0.01	0.01	0.09	-
0026_QC101_220208	8/02/2022	Water	Field_D	ES2204623	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	<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	0.10	0.01	<0.01	<0.01	0.01	0.10	-
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	13	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	11	0	nc	nc	0	11	-
0026_MW073_220208	8/02/2022	Water	Normal	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
0026_QC201_220208	8/02/2022	WATER	Interlab_D	288597	<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	<0.01	<0.01	<0.01	<0.01	-	<0.01
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
0026_SW002_220208	8/02/2022	Water	Normal	ES2204623	<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	0.06	0.06	0.02	<0.01	0.04	0.06	-
0026_QC202_220208	8/02/2022	WATER	Interlab_D	288597	<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	0.04	0.04	0.01	<0.01	0.03	-	0.01
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	40	40	67	nc	29	nc	nc
0026_SW013_220208	8/02/2022	Water	Normal	ES2204623	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.32	<0.02	<0.02	0.18	0.07	<0.05	<0.02	<0.02	4.10	3.18	1.64	0.07	1.54	3.86	-
0026_QC102_220208	8/02/2022	Water	Field_D	ES2204623	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	<0.1	<0.02	<0.02	<0.02	0.05	0.04	0.31	<0.02	<0.02	0.17	0.06	<0.05	<0.02	<0.02	3.45	2.59	1.15	0.06	1.44	3.23	-
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	6	nc	nc	nc	nc	18	nc	3	nc	nc	6	15	nc	nc	nc	17	20	35	15	7	18	-
0026_MW037_220209	9/02/2022	Water	Normal	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
0026_QC103_220209	9/02/2022	Water	Field_D	ES2204623	<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	<0.01	<0.01	<0.01	<0.01	-
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-
0026_MW044_220209	9/02/2022	Water	Normal	ES2204623	<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	0.10	<0.02	<0.02	0.06	<0.02	<0.05	<0.02	<0.02	0.59	0.36	0.04	0.01	0.32	0.53	-
0026_QC203_220209	9/02/2022	WATER	Interlab_D	288597	<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	0.19	0.16	0.02	<0.01	0.14	-	0.02
RPD					nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	164	nc	nc	143	nc	nc	nc	nc	103	77	67	nc	78	nc	nc

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 30 (1 - 10 x EQL); 30 (10 - 30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory
nc = RPD non-calculable as one or more results <LOR

Appendix E

Laboratory Certificates

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204623**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
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_0026_PFASOMP	Date Samples Received	: 11-Feb-2022 09:00
Order number	: 60612562_3.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33248	Issue Date	: 16-Feb-2022 14:33
Sampler	: ANDREW SPOOR, JESSICA ROY		
Site	: Main Albatross		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 44		
No. of samples analysed	: 44		

NATA

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

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

This 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*
Franco Lentini	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 Contact for details.

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Positive result for analyte Perfluorooctane sulfonic acid (PFOS) and Perfluorohexane sulfonic acid (PFHxS) on sample ES2204623_002,003 has been confirmed by re-extraction and re-analysis.
- 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	0026_MW001_220209	0026_MW002_220208	0026_MW003_220208	0026_MW005_220210	0026_MW006_220209
			Sampling date / time	09-Feb-2022 13:45	08-Feb-2022 10:17	08-Feb-2022 08:56	10-Feb-2022 13:06	09-Feb-2022 15:44
Compound	CAS Number	LOR	Unit	ES2204623-001	ES2204623-002	ES2204623-003	ES2204623-004	ES2204623-005
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	**0.08**	<0.02	**1.35**	**0.23**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	**1.40**	**0.27**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	**0.01**	**0.01**	**11.7**	**2.96**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	**0.54**	**0.15**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	**0.01**	**20.0**	**4.45**
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	**0.2**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	**0.41**	**0.12**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	**2.54**	**0.59**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	**0.28**	**0.05**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	**0.60**	**0.12**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW001_220209	0026_MW002_220208	0026_MW003_220208	0026_MW005_220210	0026_MW006_220209
			Sampling date / time	09-Feb-2022 13:45	08-Feb-2022 10:17	08-Feb-2022 08:56	10-Feb-2022 13:06	09-Feb-2022 15:44
Compound	CAS Number	LOR	Unit	ES2204623-001	ES2204623-002	ES2204623-003	ES2204623-004	ES2204623-005
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	**0.05**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	**0.09**	**0.07**	**39.0**	**8.94**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	**0.01**	**0.02**	**31.7**	**7.41**
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	**0.09**	**0.07**	**37.1**	**8.52**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**93.3**	**92.8**	**94.5**	**85.2**	**95.3**
13C8-PFOA	----	0.02	%	**106**	**104**	**106**	**106**	**108**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW008_220210	0902_MW009_220210	0026_MW009P_220207	0026_MW012_220207	0026_MW012P_220207
			Sampling date / time	10-Feb-2022 08:59	10-Feb-2022 11:24	07-Feb-2022 13:56	07-Feb-2022 12:01	07-Feb-2022 11:54
Compound	CAS Number	LOR	Unit	ES2204623-006	ES2204623-007	ES2204623-008	ES2204623-009	ES2204623-010
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**3.58**	**0.26**	**8.47**	<0.02	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**3.13**	**0.20**	**8.22**	<0.02	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**24.3**	**1.05**	**66.8**	<0.01	**0.43**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	**1.47**	**0.04**	**5.08**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**12.7**	**0.94**	**333**	<0.01	**0.57**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	**0.38**	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	**0.2**	**0.2**	**3.6**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	**0.74**	**0.18**	**6.97**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**6.64**	**0.74**	**43.2**	<0.02	**0.09**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.57**	**0.09**	**5.64**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.83**	**0.08**	**8.63**	<0.01	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	**1.14**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	**0.79**	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	**0.03**	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<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	**0.27**	<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	0026_MW008_220210	0902_MW009_220210	0026_MW009P_220207	0026_MW012_220207	0026_MW012P_220207
			Sampling date / time	10-Feb-2022 08:59	10-Feb-2022 11:24	07-Feb-2022 13:56	07-Feb-2022 12:01	07-Feb-2022 11:54
Compound	CAS Number	LOR	Unit	ES2204623-006	ES2204623-007	ES2204623-008	ES2204623-009	ES2204623-010
				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	**0.92**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	**2.10**	<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	**54.2**	**3.78**	**495**	<0.01	**1.23**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**37.0**	**1.99**	**400**	<0.01	**1.00**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**49.6**	**3.54**	**479**	<0.01	**1.18**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**75.8**	**100**	**76.9**	**97.4**	**98.7**
13C8-PFOA	----	0.02	%	**108**	**106**	**105**	**110**	**105**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW015_220207	0026_MW016_220207	0026_MW017_220207	0026_MW029_220208	0026_MW037_220209
			Sampling date / time	07-Feb-2022 14:33	07-Feb-2022 15:09	07-Feb-2022 10:59	08-Feb-2022 08:57	09-Feb-2022 08:14
Compound	CAS Number	LOR	Unit	ES2204623-011	ES2204623-012	ES2204623-013	ES2204623-014	ES2204623-015
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.39**	<0.02	**1.18**	**5.00**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.35**	<0.02	**1.47**	**3.55**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**2.33**	<0.01	**8.74**	**10.1**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	**0.08**	<0.02	**0.12**	**0.23**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**1.17**	<0.01	**0.82**	**5.65**	<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	**0.2**	**0.4**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	**0.06**	<0.02	**0.28**	**1.25**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.23**	<0.02	**1.50**	**8.68**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.03**	<0.02	**0.17**	**0.65**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.05**	<0.01	**0.14**	**0.42**	<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	0026_MW015_220207	0026_MW016_220207	0026_MW017_220207	0026_MW029_220208	0026_MW037_220209
			Sampling date / time	07-Feb-2022 14:33	07-Feb-2022 15:09	07-Feb-2022 10:59	08-Feb-2022 08:57	09-Feb-2022 08:14
Compound	CAS Number	LOR	Unit	ES2204623-011	ES2204623-012	ES2204623-013	ES2204623-014	ES2204623-015
				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	**4.69**	<0.01	**14.6**	**35.9**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**3.50**	<0.01	**9.56**	**15.8**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	**4.26**	<0.01	**13.0**	**32.2**	<0.01
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**109**	**102**	**96.3**	**103**	**103**
13C8-PFOA	----	0.02	%	**111**	**105**	**105**	**107**	**106**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW038_220207	0026_MW039_220210	0026_MW045_220207	0026_MW046_220207	0026_MW018_220209
			Sampling date / time	07-Feb-2022 15:38	10-Feb-2022 14:10	07-Feb-2022 13:53	07-Feb-2022 13:29	09-Feb-2022 12:14
Compound	CAS Number	LOR	Unit	ES2204623-016	ES2204623-017	ES2204623-018	ES2204623-019	ES2204623-020
				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**	**0.01**	**0.12**	**0.09**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	**0.04**	**0.03**	**0.03**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.10**	<0.02	<0.02	**0.08**	<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	0026_MW038_220207	0026_MW039_220210	0026_MW045_220207	0026_MW046_220207	0026_MW018_220209
			Sampling date / time	07-Feb-2022 15:38	10-Feb-2022 14:10	07-Feb-2022 13:53	07-Feb-2022 13:29	09-Feb-2022 12:14
Compound	CAS Number	LOR	Unit	ES2204623-016	ES2204623-017	ES2204623-018	ES2204623-019	ES2204623-020
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<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	**0.20**	**0.05**	**0.15**	**0.22**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.06**	**0.05**	**0.15**	**0.12**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.20**	**0.05**	**0.15**	**0.22**	<0.01
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**99.8**	**104**	**103**	**97.0**	**99.4**
13C8-PFOA	----	0.02	%	**105**	**107**	**107**	**99.1**	**106**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW044_220209	0026_MW072_220208	0026_MW073_220208	0026_QC100_220207	0026_QC101_220208
			Sampling date / time	09-Feb-2022 08:42	08-Feb-2022 11:32	08-Feb-2022 10:43	07-Feb-2022 12:08	08-Feb-2022 10:18
Compound	CAS Number	LOR	Unit	ES2204623-021	ES2204623-022	ES2204623-023	ES2204623-037	ES2204623-038
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.06**	<0.02	<0.02	<0.02	**0.07**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.06**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.32**	<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	**0.04**	<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	**0.10**	<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	0026_MW044_220209	0026_MW072_220208	0026_MW073_220208	0026_QC100_220207	0026_QC101_220208
			Sampling date / time	09-Feb-2022 08:42	08-Feb-2022 11:32	08-Feb-2022 10:43	07-Feb-2022 12:08	08-Feb-2022 10:18
Compound	CAS Number	LOR	Unit	ES2204623-021	ES2204623-022	ES2204623-023	ES2204623-037	ES2204623-038
				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	**0.59**	<0.01	<0.01	<0.01	**0.10**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.36**	<0.01	<0.01	<0.01	**0.01**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.53**	<0.01	<0.01	<0.01	**0.10**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**97.7**	**98.2**	**98.9**	**96.2**	**98.8**
13C8-PFOA	----	0.02	%	**100**	**107**	**103**	**105**	**105**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_QC103_220209	----	----	----	----
			Sampling date / time	09-Feb-2022 08:16	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204623-040	--------	--------	--------	--------
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_QC103_220209	----	----	----	----
			Sampling date / time	09-Feb-2022 08:16	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204623-040	--------	--------	--------	--------
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**98.4**	----	----	----	----
13C8-PFOA	----	0.02	%	**106**	----	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	0026_QC300_220207	0026_QC301_220208	0026_QC302_220209	0026_QC303_220210	----
			Sampling date / time	07-Feb-2022 09:30	08-Feb-2022 09:31	09-Feb-2022 09:30	10-Feb-2022 14:30	----
Compound	CAS Number	LOR	Unit	ES2204623-041	ES2204623-042	ES2204623-043	ES2204623-044	--------
				Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<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: RINSATE (Matrix: WATER)			Sample ID	0026_QC300_220207	0026_QC301_220208	0026_QC302_220209	0026_QC303_220210	----
			Sampling date / time	07-Feb-2022 09:30	08-Feb-2022 09:31	09-Feb-2022 09:30	10-Feb-2022 14:30	----
Compound	CAS Number	LOR	Unit	ES2204623-041	ES2204623-042	ES2204623-043	ES2204623-044	--------
				Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	<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	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**95.1**	**98.9**	**97.0**	**101**	----
13C8-PFOA	----	0.02	%	**100**	**101**	**97.8**	**104**	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0026_SW007_220207	0026_SW009_220209	0026_SW012_220210	0026_SW018_220207	0026_SW001_220208
			Sampling date / time	07-Feb-2022 12:48	09-Feb-2022 15:40	10-Feb-2022 11:57	07-Feb-2022 12:25	08-Feb-2022 14:17
Compound	CAS Number	LOR	Unit	ES2204623-024	ES2204623-025	ES2204623-026	ES2204623-027	ES2204623-028
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.04**	**0.32**	**0.18**	**0.44**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.03**	**0.41**	**0.18**	**0.46**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.24**	**4.78**	**1.43**	**3.27**	**0.04**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	**0.22**	**0.05**	**0.13**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.28**	**11.8**	**1.18**	**3.82**	**0.05**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	**0.03**	<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	**0.10**	**0.23**	**0.06**	**0.18**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.12**	**1.23**	**0.26**	**0.85**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.02**	**0.09**	**0.04**	**0.09**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.01**	**0.19**	**0.06**	**0.19**	<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	0026_SW007_220207	0026_SW009_220209	0026_SW012_220210	0026_SW018_220207	0026_SW001_220208
			Sampling date / time	07-Feb-2022 12:48	09-Feb-2022 15:40	10-Feb-2022 11:57	07-Feb-2022 12:25	08-Feb-2022 14:17
Compound	CAS Number	LOR	Unit	ES2204623-024	ES2204623-025	ES2204623-026	ES2204623-027	ES2204623-028
				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	**1.11**	<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	**0.84**	**20.5**	**3.44**	**9.53**	**0.09**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.52**	**16.6**	**2.61**	**7.09**	**0.09**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.81**	**19.8**	**3.21**	**8.94**	**0.09**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**105**	**97.9**	**96.0**	**104**	**98.9**
13C8-PFOA	----	0.02	%	**109**	**104**	**100**	**104**	**101**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0026_SW002_220208	0026_SW004B_220208	0026_SW005_220208	0026_SW006_220208	0026_SW008_220210
			Sampling date / time	08-Feb-2022 14:45	08-Feb-2022 13:37	08-Feb-2022 12:45	08-Feb-2022 16:32	10-Feb-2022 11:23
Compound	CAS Number	LOR	Unit	ES2204623-029	ES2204623-030	ES2204623-031	ES2204623-032	ES2204623-033
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	**0.20**	**0.20**	**0.19**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	**0.22**	**0.21**	**0.24**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.04**	**0.14**	**1.81**	**1.95**	**2.05**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	**0.08**	**0.08**	**0.07**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.02**	**0.19**	**2.61**	**2.48**	**2.21**
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	**0.12**	**0.15**	**0.09**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	**0.04**	**0.55**	**0.74**	**0.55**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	**0.07**	**0.07**	**0.05**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	**0.13**	**0.10**	**0.10**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: **SURFACE WATER** (Matrix: **WATER**)			*Sample ID*	**0026_SW002_220208**	**0026_SW004B_220208**	**0026_SW005_220208**	**0026_SW006_220208**	**0026_SW008_220210**
			Sampling date / time	08-Feb-2022 14:45	08-Feb-2022 13:37	08-Feb-2022 12:45	08-Feb-2022 16:32	10-Feb-2022 11:23
Compound	*CAS Number*	*LOR*	*Unit*	**ES2204623-029**	**ES2204623-030**	**ES2204623-031**	**ES2204623-032**	**ES2204623-033**
				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	<0.05	**2.09**	<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**	**0.37**	**5.79**	**8.07**	**5.55**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.06**	**0.33**	**4.42**	**4.43**	**4.26**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.06**	**0.37**	**5.49**	**7.78**	**5.24**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**99.0**	**91.8**	**99.7**	**102**	**98.6**
13C8-PFOA	----	0.02	%	**106**	**101**	**110**	**100**	**103**

Analytical Results

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

Compound	CAS Number	LOR	Unit	0026_SW013_220208	0026_SW014_220208	0026_SW020_220208	0026_QC102_220208	----
			Sampling date / time	08-Feb-2022 15:07	08-Feb-2022 15:36	08-Feb-2022 12:00	08-Feb-2022 15:08	----
				ES2204623-034	ES2204623-035	ES2204623-036	ES2204623-039	--------
				Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.18**	<0.02	**0.12**	**0.17**	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.18**	<0.02	**0.13**	**0.17**	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**1.54**	<0.01	**1.36**	**1.44**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	**0.06**	<0.02	**0.04**	**0.05**	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**1.64**	<0.01	**0.99**	**1.15**	----
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	**0.07**	<0.02	**0.03**	**0.06**	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.32**	<0.02	**0.22**	**0.31**	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.04**	<0.02	<0.02	**0.04**	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.07**	<0.01	**0.04**	**0.06**	----
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	0026_SW013_220208	0026_SW014_220208	0026_SW020_220208	0026_QC102_220208	----
			Sampling date / time	08-Feb-2022 15:07	08-Feb-2022 15:36	08-Feb-2022 12:00	08-Feb-2022 15:08	----
Compound	CAS Number	LOR	Unit	ES2204623-034	ES2204623-035	ES2204623-036	ES2204623-039	--------
				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	**4.10**	<0.01	**2.93**	**3.45**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**3.18**	<0.01	**2.35**	**2.59**	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**3.86**	<0.01	**2.76**	**3.23**	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**112**	**105**	**100**	**96.6**	----
13C8-PFOA	----	0.02	%	**106**	**106**	**104**	**109**	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**

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

Sub-Matrix: **RINSATE**

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

Sub-Matrix: **SURFACE WATER**

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

QUALITY CONTROL REPORT

Work Order	: **ES2204623**	Page	:
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
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_0026_PFASOMP	Date Samples Received	: 11-Feb-2022
Order number	: 60612562_3.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33248	Issue Date	: 16-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY		
Site	: Main Albatross		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 44		
No. of samples analysed	: 44		

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*
Franco Lentini	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: 4171816)									
ES2204623-028	0026_SW001_220208	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.05	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2204623-030	0026_SW004B_220208	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.14	0.14	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.19	0.17	12.9	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4172225)									
ES2204623-031	0026_SW005_220208	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.81	2.00	10.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.61	2.69	3.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	0.22	8.9	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.22	0.24	10.6	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.09	12.2	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2204623-036	0026_SW020_220208	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.36	1.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.99	0.98	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.12	0.13	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.13	0.14	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.04	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4172225) - continued									
ES2204623-036	0026_SW020_220208	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: 4171816)									
ES2204623-028	0026_SW001_220208	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
ES2204623-030	0026_SW004B_220208	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4172225)									
ES2204623-031	0026_SW005_220208	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	0.14	7.6	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.12	0.14	11.9	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.55	0.62	13.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.08	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
ES2204623-036	0026_SW020_220208	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.22	0.23	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4172225) - continued									
ES2204623-036	0026_SW020_220208	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: 4171816)									
ES2204623-028	0026_SW001_220208	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
ES2204623-030	0026_SW004B_220208	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: 4172225)									
ES2204623-031	0026_SW005_220208	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4172225) - continued									
ES2204623-031	0026_SW005_220208	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
ES2204623-036	0026_SW020_220208	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: 4171816)									
ES2204623-028	0026_SW001_220208	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
ES2204623-030	0026_SW004B_220208	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: 4172225)									
ES2204623-031	0026_SW005_220208	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 sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4172225) - continued									
ES2204623-031	0026_SW005_220208	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
ES2204623-036	0026_SW020_220208	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: 4171816)									
ES2204623-028	0026_SW001_220208	EP231X: Sum of PFAS	----	0.01	µg/L	0.09	0.11	20.0	0% - 50%
ES2204623-030	0026_SW004B_220208	EP231X: Sum of PFAS	----	0.01	µg/L	0.37	0.35	5.6	0% - 20%
EP231P: PFAS Sums (QC Lot: 4172225)									
ES2204623-031	0026_SW005_220208	EP231X: Sum of PFAS	----	0.01	µg/L	5.79	6.22	7.2	0% - 20%
ES2204623-036	0026_SW020_220208	EP231X: Sum of PFAS	----	0.01	µg/L	2.93	2.94	0.3	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: 4168856)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	125	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	108	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	107	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	102	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	104	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171816)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	99.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	94.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	102	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	103	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172225)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	110	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	105	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	113	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	113	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168856)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	114	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	129	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	125	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171816)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	101	73.0	129

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
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171816) - continued								
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	118	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	119	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	118	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	109	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172225)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	117	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	118	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	126	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	123	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168856)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	101	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	103	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	131	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	122	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	103	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4171816)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	113	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	119	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	120	62.6	147

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4171816) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	122	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	118	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172225)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	114	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	122	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	114	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	114	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	128	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	126	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	109	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168856)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	127	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	120	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	119	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171816)								
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	115	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	124	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	120	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172225)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	123	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	137	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	134	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: 4171816)							
ES2204623-029	0026_SW002_220208	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	107	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	99.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	91.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	97.4	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	95.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	105	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172225)							
ES2204623-032	0026_SW006_220208	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	117	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	122	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	120	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	124	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171816)							
ES2204623-029	0026_SW002_220208	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	106	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	120	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	114	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	113	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	121	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	124	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	99.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	82.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	112	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172225)							
ES2204623-032	0026_SW006_220208	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	118	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	116	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	119	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	117	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	118	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	127	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	115	72.0	134

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172225) - continued							
ES2204623-032	0026_SW006_220208	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	86.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	126	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4171816)							
ES2204623-029	0026_SW002_220208	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	112	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	123	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	122	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	119	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	113	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	99.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172225)							
ES2204623-032	0026_SW006_220208	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	122	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	124	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	119	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	119	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	117	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	126	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	110	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171816)							
ES2204623-029	0026_SW002_220208	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	121	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	121	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	117	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172225)							
ES2204623-032	0026_SW006_220208	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	122	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	# Not Determined	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	136	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: 4172225) - continued							
ES2204623-032	0026_SW006_220208	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	126	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2204623**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Telephone	: +61 2 8784 8555
Project	: NSW_0026_PFASOMP	Date Samples Received	: 11-Feb-2022
Site	: Main Albatross	Issue Date	: 16-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY	No. of samples received	: 44
Order number	: 60612562_3.1	No. of samples analysed	: 44

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2204623--032	0026_SW006_220208	**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	ES2204623--032	0026_SW006_220208	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ES2204623--032	0026_SW006_220208	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	27619-97-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	58	6.90	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	58	3.45	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
***Container** / Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0026_MW009P_220207, 0026_MW012P_220207	0026_MW012_220207,	**07-Feb-2022**	**14-Feb-2022**	06-Aug-2022	✓	**14-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW015_220207, 0026_MW017_220207, 0026_MW045_220207, 0026_SW007_220207, 0026_QC100_220207,	0026_MW016_220207, 0026_MW038_220207, 0026_MW046_220207, 0026_SW018_220207, 0026_QC300_220207	**07-Feb-2022**	**15-Feb-2022**	06-Aug-2022	✓	**15-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW002_220208,	0026_MW003_220208	**08-Feb-2022**	**14-Feb-2022**	07-Aug-2022	✓	**14-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW029_220208, 0026_MW073_220208, 0026_SW002_220208, 0026_SW005_220208, 0026_SW013_220208, 0026_SW020_220208, 0026_QC102_220208,	0026_MW072_220208, 0026_SW001_220208, 0026_SW004B_220208, 0026_SW006_220208, 0026_SW014_220208, 0026_QC101_220208, 0026_QC301_220208	**08-Feb-2022**	**15-Feb-2022**	07-Aug-2022	✓	**15-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW001_220209,	0026_MW006_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW037_220209, 0026_MW044_220209, 0026_QC103_220209,	0026_MW018_220209, 0026_SW009_220209, 0026_QC302_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**15-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW005_220210, 0902_MW009_220210	0026_MW008_220210,	**10-Feb-2022**	**14-Feb-2022**	09-Aug-2022	✓	**14-Feb-2022**	09-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW039_220210, 0026_SW008_220210,	0026_SW012_220210, 0026_QC303_220210	**10-Feb-2022**	**15-Feb-2022**	09-Aug-2022	✓	**15-Feb-2022**	09-Aug-2022	✓

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) 0026_MW009P_220207, 0026_MW012P_220207	0026_MW012_220207,	**07-Feb-2022**	**14-Feb-2022**	06-Aug-2022	✓	**14-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW015_220207, 0026_MW017_220207, 0026_MW045_220207, 0026_SW007_220207, 0026_QC100_220207,	0026_MW016_220207, 0026_MW038_220207, 0026_MW046_220207, 0026_SW018_220207, 0026_QC300_220207	**07-Feb-2022**	**15-Feb-2022**	06-Aug-2022	✓	**15-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW002_220208,	0026_MW003_220208	**08-Feb-2022**	**14-Feb-2022**	07-Aug-2022	✓	**14-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW029_220208, 0026_MW073_220208, 0026_SW002_220208, 0026_SW005_220208, 0026_SW013_220208, 0026_SW020_220208, 0026_QC102_220208,	0026_MW072_220208, 0026_SW001_220208, 0026_SW004B_220208, 0026_SW006_220208, 0026_SW014_220208, 0026_QC101_220208, 0026_QC301_220208	**08-Feb-2022**	**15-Feb-2022**	07-Aug-2022	✓	**15-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW001_220209,	0026_MW006_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW037_220209, 0026_MW044_220209, 0026_QC103_220209,	0026_MW018_220209, 0026_SW009_220209, 0026_QC302_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**15-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW005_220210, 0902_MW009_220210	0026_MW008_220210,	**10-Feb-2022**	**14-Feb-2022**	09-Aug-2022	✓	**14-Feb-2022**	09-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW039_220210, 0026_SW008_220210,	0026_SW012_220210, 0026_QC303_220210	**10-Feb-2022**	**15-Feb-2022**	09-Aug-2022	✓	**15-Feb-2022**	09-Aug-2022	✓

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) 0026_MW009P_220207, 0026_MW012P_220207	0026_MW012_220207,	**07-Feb-2022**	**14-Feb-2022**	06-Aug-2022	✓	**14-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW015_220207, 0026_MW017_220207, 0026_MW045_220207, 0026_SW007_220207, 0026_QC100_220207,	0026_MW016_220207, 0026_MW038_220207, 0026_MW046_220207, 0026_SW018_220207, 0026_QC300_220207	**07-Feb-2022**	**15-Feb-2022**	06-Aug-2022	✓	**15-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW002_220208,	0026_MW003_220208	**08-Feb-2022**	**14-Feb-2022**	07-Aug-2022	✓	**14-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW029_220208, 0026_MW073_220208, 0026_SW002_220208, 0026_SW005_220208, 0026_SW013_220208, 0026_SW020_220208, 0026_QC102_220208,	0026_MW072_220208, 0026_SW001_220208, 0026_SW004B_220208, 0026_SW006_220208, 0026_SW014_220208, 0026_QC101_220208, 0026_QC301_220208	**08-Feb-2022**	**15-Feb-2022**	07-Aug-2022	✓	**15-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW001_220209,	0026_MW006_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW037_220209, 0026_MW044_220209, 0026_QC103_220209,	0026_MW018_220209, 0026_SW009_220209, 0026_QC302_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**15-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW005_220210, 0902_MW009_220210	0026_MW008_220210,	**10-Feb-2022**	**14-Feb-2022**	09-Aug-2022	✓	**14-Feb-2022**	09-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0026_MW039_220210, 0026_SW008_220210,	0026_SW012_220210, 0026_QC303_220210	**10-Feb-2022**	**15-Feb-2022**	09-Aug-2022	✓	**15-Feb-2022**	09-Aug-2022	✓

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)								
0026_MW009P_220207, 0026_MW012P_220207	0026_MW012_220207,	**07-Feb-2022**	**14-Feb-2022**	06-Aug-2022	✓	**14-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW015_220207, 0026_MW017_220207, 0026_MW045_220207, 0026_SW007_220207, 0026_QC100_220207,	0026_MW016_220207, 0026_MW038_220207, 0026_MW046_220207, 0026_SW018_220207, 0026_QC300_220207	**07-Feb-2022**	**15-Feb-2022**	06-Aug-2022	✓	**15-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW002_220208,	0026_MW003_220208	**08-Feb-2022**	**14-Feb-2022**	07-Aug-2022	✓	**14-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW029_220208, 0026_MW073_220208, 0026_SW002_220208, 0026_SW005_220208, 0026_SW013_220208, 0026_SW020_220208, 0026_QC102_220208,	0026_MW072_220208, 0026_SW001_220208, 0026_SW004B_220208, 0026_SW006_220208, 0026_SW014_220208, 0026_QC101_220208, 0026_QC301_220208	**08-Feb-2022**	**15-Feb-2022**	07-Aug-2022	✓	**15-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW001_220209,	0026_MW006_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW037_220209, 0026_MW044_220209, 0026_QC103_220209,	0026_MW018_220209, 0026_SW009_220209, 0026_QC302_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**15-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW005_220210, 0902_MW009_220210	0026_MW008_220210,	**10-Feb-2022**	**14-Feb-2022**	09-Aug-2022	✓	**14-Feb-2022**	09-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW039_220210, 0026_SW008_220210,	0026_SW012_220210, 0026_QC303_220210	**10-Feb-2022**	**15-Feb-2022**	09-Aug-2022	✓	**15-Feb-2022**	09-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0026_MW009P_220207, 0026_MW012P_220207	0026_MW012_220207,	**07-Feb-2022**	**14-Feb-2022**	06-Aug-2022	✓	**14-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW015_220207, 0026_MW017_220207, 0026_MW045_220207, 0026_SW007_220207, 0026_QC100_220207,	0026_MW016_220207, 0026_MW038_220207, 0026_MW046_220207, 0026_SW018_220207, 0026_QC300_220207	**07-Feb-2022**	**15-Feb-2022**	06-Aug-2022	✓	**15-Feb-2022**	06-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW002_220208,	0026_MW003_220208	**08-Feb-2022**	**14-Feb-2022**	07-Aug-2022	✓	**14-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW029_220208, 0026_MW073_220208, 0026_SW002_220208, 0026_SW005_220208, 0026_SW013_220208, 0026_SW020_220208, 0026_QC102_220208,	0026_MW072_220208, 0026_SW001_220208, 0026_SW004B_220208, 0026_SW006_220208, 0026_SW014_220208, 0026_QC101_220208, 0026_QC301_220208	**08-Feb-2022**	**15-Feb-2022**	07-Aug-2022	✓	**15-Feb-2022**	07-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW001_220209,	0026_MW006_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW037_220209, 0026_MW044_220209, 0026_QC103_220209,	0026_MW018_220209, 0026_SW009_220209, 0026_QC302_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**15-Feb-2022**	08-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW005_220210, 0902_MW009_220210	0026_MW008_220210,	**10-Feb-2022**	**14-Feb-2022**	09-Aug-2022	✓	**14-Feb-2022**	09-Aug-2022	✓
HDPE (no PTFE) (EP231X)								
0026_MW039_220210, 0026_SW008_220210,	0026_SW012_220210, 0026_QC303_220210	**10-Feb-2022**	**15-Feb-2022**	09-Aug-2022	✓	**15-Feb-2022**	09-Aug-2022	✓

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	4	58	**6.90**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	58	**3.45**	**5.00**	✗	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
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 : **ES2204623**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mat.jenkins@aecom.com	E-mail	: Christopher.Redford@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0026_PFASOMP	Page	: 1 of 5
Order number	: 60612562_3.1	Quote number	: ES2021AECOMAU0025 (SY/139/19 v4 60612562_3.1)
C-O-C number	: 33248	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Main Albatross		
Sampler	: ANDREW SPOOR, JESSICA ROY		

Dates

Date Samples Received	: 11-Feb-2022 09:00	Issue Date	: 11-Feb-2022
Client Requested Due Date	: 18-Feb-2022	Scheduled Reporting Date	: **18-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.1' C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 44 / 44

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)
ES2204623-001	09-Feb-2022 13:45	0026_MW001_220209	✓
ES2204623-002	08-Feb-2022 10:17	0026_MW002_220208	✓
ES2204623-003	08-Feb-2022 08:56	0026_MW003_220208	✓
ES2204623-004	10-Feb-2022 13:06	0026_MW005_220210	✓
ES2204623-005	09-Feb-2022 15:44	0026_MW006_220209	✓
ES2204623-006	10-Feb-2022 08:59	0026_MW008_220210	✓
ES2204623-007	10-Feb-2022 11:24	0902_MW009_220210	✓
ES2204623-008	07-Feb-2022 13:56	0026_MW009P_220207	✓
ES2204623-009	07-Feb-2022 12:01	0026_MW012_220207	✓
ES2204623-010	07-Feb-2022 11:54	0026_MW012P_220207	✓
ES2204623-011	07-Feb-2022 14:33	0026_MW015_220207	✓
ES2204623-012	07-Feb-2022 15:09	0026_MW016_220207	✓
ES2204623-013	07-Feb-2022 10:59	0026_MW017_220207	✓
ES2204623-014	08-Feb-2022 08:57	0026_MW029_220208	✓
ES2204623-015	09-Feb-2022 08:14	0026_MW037_220209	✓
ES2204623-016	07-Feb-2022 15:38	0026_MW038_220207	✓
ES2204623-017	10-Feb-2022 14:10	0026_MW039_220210	✓
ES2204623-018	07-Feb-2022 13:53	0026_MW045_220207	✓
ES2204623-019	07-Feb-2022 13:29	0026_MW046_220207	✓
ES2204623-020	09-Feb-2022 12:14	0026_MW018_220209	✓
ES2204623-021	09-Feb-2022 08:42	0026_MW044_220209	✓
ES2204623-022	08-Feb-2022 11:32	0026_MW072_220208	✓
ES2204623-023	08-Feb-2022 10:43	0026_MW073_220208	✓
ES2204623-024	07-Feb-2022 12:48	0026_SW007_220207	✓
ES2204623-025	09-Feb-2022 15:40	0026_SW009_220209	✓
ES2204623-026	10-Feb-2022 11:57	0026_SW012_220210	✓
ES2204623-027	07-Feb-2022 12:25	0026_SW018_220207	✓
ES2204623-028	08-Feb-2022 14:17	0026_SW001_220208	✓
ES2204623-029	08-Feb-2022 14:45	0026_SW002_220208	✓
ES2204623-030	08-Feb-2022 13:37	0026_SW004B_220208	✓
ES2204623-031	08-Feb-2022 12:45	0026_SW005_220208	✓
ES2204623-032	08-Feb-2022 16:32	0026_SW006_220208	✓
ES2204623-033	10-Feb-2022 11:23	0026_SW008_220210	✓
ES2204623-034	08-Feb-2022 15:07	0026_SW013_220208	✓
ES2204623-035	08-Feb-2022 15:36	0026_SW014_220208	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
ES2204623-036	08-Feb-2022 12:00	0026_SW020_220208	✓
ES2204623-037	07-Feb-2022 12:08	0026_QC100_220207	✓
ES2204623-038	08-Feb-2022 10:18	0026_QC101_220208	✓
ES2204623-039	08-Feb-2022 15:08	0026_QC102_220208	✓
ES2204623-040	09-Feb-2022 08:16	0026_QC103_220209	✓
ES2204623-041	07-Feb-2022 09:30	0026_QC300_220207	✓
ES2204623-042	08-Feb-2022 09:31	0026_QC301_220208	✓
ES2204623-043	09-Feb-2022 09:30	0026_QC302_220209	✓
ES2204623-044	10-Feb-2022 14:30	0026_QC303_220210	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
ANDREW SPOOR		
- *AU Certificate of Analysis - NATA (COA)	Email	Andrew.Spoor@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Andrew.Spoor@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Andrew.Spoor@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Andrew.Spoor@aecom.com
- Chain of Custody (CoC) (COC)	Email	Andrew.Spoor@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	Andrew.Spoor@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Andrew.Spoor@aecom.com
CATHERINE HANSEN		
- *AU Certificate of Analysis - NATA (COA)	Email	catherine.hansen@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	catherine.hansen@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	catherine.hansen@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	catherine.hansen@aecom.com
- Chain of Custody (CoC) (COC)	Email	catherine.hansen@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	catherine.hansen@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	catherine.hansen@aecom.com
DERP ESDAT REPORTS		
- *AU Certificate of Analysis - NATA (COA)	Email	derp.labreports@esdat.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	derp.labreports@esdat.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	derp.labreports@esdat.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	derp.labreports@esdat.com.au
- Chain of Custody (CoC) (COC)	Email	derp.labreports@esdat.com.au
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	derp.labreports@esdat.com.au
- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@esdat.com.au
esdat.apac esdat.apac		
- *AU Certificate of Analysis - NATA (COA)	Email	esdat.apac@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	esdat.apac@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	esdat.apac@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	esdat.apac@aecom.com
- Chain of Custody (CoC) (COC)	Email	esdat.apac@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	esdat.apac@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	esdat.apac@aecom.com
GEOFF TREDINNICK		
- *AU Certificate of Analysis - NATA (COA)	Email	Geoff.Tredinnick@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Geoff.Tredinnick@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Tax Invoice (INV)	Email	Geoff.Tredinnick@aecom.com
- Chain of Custody (CoC) (COC)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Geoff.Tredinnick@aecom.com
JESSICA ROY		
- *AU Certificate of Analysis - NATA (COA)	Email	jessica.roy@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jessica.roy@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jessica.roy@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jessica.roy@aecom.com
- Chain of Custody (CoC) (COC)	Email	jessica.roy@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	jessica.roy@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	jessica.roy@aecom.com
MAT JENKINS		
- *AU Certificate of Analysis - NATA (COA)	Email	mat.jenkins@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mat.jenkins@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mat.jenkins@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mat.jenkins@aecom.com
- Chain of Custody (CoC) (COC)	Email	mat.jenkins@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	mat.jenkins@aecom.com

MAT JENKINS

- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	mat.jenkins@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	mat.jenkins@aecom.com
- EDI Format - XTab (XTAB)	Email	mat.jenkins@aecom.com

CHAIN OF CUSTODY

COC#: 33248 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Sarin		
DATE TIME:	DATE TIME: 11/2/22 9am	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Main Albatross
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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: 3.1 °C
Other comments:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0026_MW001_220209		09/02/2022 01:45 PM	Water	ALS: 3 Non ALS: 0	No	X		
002	0026_MW002_220208		08/02/2022 10:17 AM	Water	ALS: 3 Non ALS: 0	No	X		
003	0026_MW003_220208		08/02/2022 08:56 AM	Water	ALS: 3 Non ALS: 0	No	X		
004	0026_MW005_220210		10/02/2022 01:06 PM	Water	ALS: 3 Non ALS: 0	No	X		
005	0026_MW006_220209		09/02/2022 03:44 PM	Water	ALS: 3 Non ALS: 0	No	X		
006	0026_MW008_220210		10/02/2022 08:59 AM	Water	ALS: 3 Non ALS: 0	No	X		
007	0902_MW009_220210		07/02/2022 11:24 AM	Water	ALS: 3 Non ALS: 0	No	X		
008	0026_MW009P_220207		07/02/2022 01:56 PM	Water	ALS: 3 Non ALS: 0	No	X		
009	0026_MW012_220207		07/02/2022 12:01 PM	Water	ALS: 3 Non ALS: 0	No	X		

Environmental Division
Sydney
Work Order Reference
ES2204623

Telephone : + 61-2-8784 8555

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Main Albatross
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0026_MW012P_220207		07/02/2022 11:54 AM	Water	ALS: 3 Non ALS: 0	No	X		
011	0026_MW015_220207		07/02/2022 02:33 PM	Water	ALS: 3 Non ALS: 0	No	X		
012	0026_MW016_220207		07/02/2022 03:09 PM	Water	ALS: 3 Non ALS: 0	No	X		
013	0026_MW017_220207		07/02/2022 10:59 AM	Water	ALS: 3 Non ALS: 0	No	X		
014	0026_MW029_220208		08/02/2022 08:57 AM	Water	ALS: 3 Non ALS: 0	No	X		
015	0026_MW037_220209		09/02/2022 08:14 AM	Water	ALS: 3 Non ALS: 0	No	X		
016	0026_MW038_220207		07/02/2022 03:38 PM	Water	ALS: 4 Non ALS: 0	No	X		
017	0026_MW039_220210		10/02/2022 02:10 PM	Water	ALS: 2 Non ALS: 0	No	X		not enough volume for third bottle
018	0026_MW045_220207		07/02/2022 01:53 PM	Water	ALS: 3 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Andrew Spoor

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0026_MW046_220207		07/02/2022 01:29 PM	Water	ALS: 3 Non ALS: 0	No	X		
020	0026_MW018_220209		09/02/2022 12:14 PM	Water	ALS: 3 Non ALS: 0	No	X		
021	0026_MW044_220209		09/02/2022 08:42 AM	Water	ALS: 3 Non ALS: 0	No	X		
022	0026_MW072_220208		08/02/2022 11:32 AM	Water	ALS: 4 Non ALS: 0	No	X		
023	0026_MW073_220208		08/02/2022 10:43 AM	Water	ALS: 3 Non ALS: 0	No	X		
024	0026_SW007_220207		07/02/2022 12:48 PM	Water	ALS: 3 Non ALS: 0	No	X		
025	0026_SW009_220209		09/02/2022 03:40 PM	Water	ALS: 3 Non ALS: 0	No	X		
026	0026_SW012_220210		10/02/2022 11:57 AM	Water	ALS: 3 Non ALS: 0	No	X		
027	0026_SW018_220207		07/02/2022 12:25 PM	Water	ALS: 3 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Main Albatross
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

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EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0026_SW001_220208		08/02/2022 02:17 PM	Water	ALS: 5 Non ALS: 0	No	X		extra volume collected for lab qc
029	0026_SW002_220208		08/02/2022 02:45 PM	Water	ALS: 5 Non ALS: 0	No	X		extra volume collected for lab qc
030	0026_SW004B_220208		08/02/2022 01:37 PM	Water	ALS: 5 Non ALS: 0	No	X		extra volume collected for lab qc
031	0026_SW005_220208		08/02/2022 12:45 PM	Water	ALS: 5 Non ALS: 0	No	X		extra volume collected for lab qc
032	0026_SW006_220208		08/02/2022 04:32 PM	Water	ALS: 5 Non ALS: 0	No	X		Extra volume taken
033	0026_SW008_220210		10/02/2022 11:23 AM	Water	ALS: 3 Non ALS: 0	No	X		
034	0026_SW013_220208		08/02/2022 03:07 PM	Water	ALS: 5 Non ALS: 0	No	X		Extra volume taken for lab QC
035	0026_SW014_220208		08/02/2022 03:36 PM	Water	ALS: 5 Non ALS: 0	No	X		Extra volume collected
036	0026_SW020_220208		08/02/2022 12:00 PM	Water	ALS: 5 Non ALS: 0	No	X		extra volume collected for lab qc

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Main Albatross
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

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:

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EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0026_QC100_220207		07/02/2022 12:08 PM	Water	ALS: 2 Non ALS: 0	No	X		one bottled leaked, was removed
038	0026_QC101_220208		08/02/2022 10:18 AM	Water	ALS: 3 Non ALS: 0	No	X		
039	0026_QC102_220208		08/02/2022 03:08 PM	Water	ALS: 3 Non ALS: 0	No	X		
040	0026_QC103_220209		09/02/2022 08:16 AM	Water	ALS: 3 Non ALS: 0	No	X		
041	0026_QC300_220207		10/02/2022 09:30 AM	Water	ALS: 2 Non ALS: 0	No	X		
042	0026_QC301_220208		10/02/2022 09:31 AM	Water	ALS: 2 Non ALS: 0	No	X		
043	0026_QC302_220209		10/02/2022 09:30 AM	Water	ALS: 2 Non ALS: 0	No	X		
044	0026_QC303_220210		10/02/2022 02:30 PM	Water	ALS: 3 Non ALS: 0	No	X		

CHAIN OF COUSTODY

ALS COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER: Mat Jenkins CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

PRIMARY SAMPLER: Andrew Spoor QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

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	0026_MW001_220209	HDPE (no PTFE)	20 mL	00352010086251	Grey	No	
001	0026_MW001_220209	HDPE (no PTFE)	20 mL	00352010086092	Grey	No	
~~001~~	~~0026_MW001_220209~~	~~HDPE (no PTFE)~~	~~20 mL~~	~~00352010029374~~	~~Grey~~	~~No~~	
002	0026_MW002_220208	HDPE (no PTFE)	20 mL	00350621034489	Grey	No	
002	0026_MW002_220208	HDPE (no PTFE)	20 mL	00350621034562	Grey	No	
002	0026_MW002_220208	HDPE (no PTFE)	20 mL	00350621034482	Grey	No	
003	0026_MW003_220208	HDPE (no PTFE)	20 mL	00352010029331	Grey	No	
003	0026_MW003_220208	HDPE (no PTFE)	20 mL	00350621034401	Grey	No	
003	0026_MW003_220208	HDPE (no PTFE)	20 mL	00352010029369	Grey	No	
004	0026_MW005_220210	HDPE (no PTFE)	20 mL	00352010029198	Grey	No	
004	0026_MW005_220210	HDPE (no PTFE)	20 mL	00352010029452	Grey	No	
004	0026_MW005_220210	HDPE (no PTFE)	20 mL	00352010029191	Grey	No	
005	0026_MW006_220209	HDPE (no PTFE)	20 mL	00352010029129	Grey	No	
005	0026_MW006_220209	HDPE (no PTFE)	20 mL	00352010029140	Grey	No	
005	0026_MW006_220209	HDPE (no PTFE)	20 mL	00352010029334	Grey	No	
006	0026_MW008_220210	HDPE (no PTFE)	20 mL	00352010085691	Grey	No	
006	0026_MW008_220210	HDPE (no PTFE)	20 mL	00350621034531	Grey	No	
006	0026_MW008_220210	HDPE (no PTFE)	20 mL	00350621034511	Grey	No	
007	0902_MW009_220210	HDPE (no PTFE)	20 mL	00350621034514	Grey	No	
007	0902_MW009_220210	HDPE (no PTFE)	20 mL	00350621034608	Grey	No	
007	0902_MW009_220210	HDPE (no PTFE)	20 mL	00352010086036	Grey	No	
008	0026_MW009P_220207	HDPE (no PTFE)	20 mL	00350821044042	Grey	No	
008	0026_MW009P_220207	HDPE (no PTFE)	20 mL	00350821043568	Grey	No	
008	0026_MW009P_220207	HDPE (no PTFE)	20 mL	00350821043716	Grey	No	
009	0026_MW012_220207	HDPE (no PTFE)	20 mL	00350821043618	Grey	No	
009	0026_MW012_220207	HDPE (no PTFE)	20 mL	00350821043997	Grey	No	

CHAIN OF COUSTODY

ALS COC#: **33248** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: Mat Jenkins CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

PRIMARY SAMPLER: Andrew Spoor QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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009	0026_MW012_220207	HDPE (no PTFE)	20 mL	00350821044137	Grey	No	
010	0026_MW012P_220207	HDPE (no PTFE)	20 mL	00350821043688	Grey	No	
010	0026_MW012P_220207	HDPE (no PTFE)	20 mL	00350821043564	Grey	No	
010	0026_MW012P_220207	HDPE (no PTFE)	20 mL	00350821043615	Grey	No	
011	0026_MW015_220207	HDPE (no PTFE)	20 mL	00350821043812	Grey	No	
011	0026_MW015_220207	HDPE (no PTFE)	20 mL	00350821043577	Grey	No	
011	0026_MW015_220207	HDPE (no PTFE)	20 mL	00350821043779	Grey	No	
012	0026_MW016_220207	HDPE (no PTFE)	20 mL	00350821043927	Grey	No	
012	0026_MW016_220207	HDPE (no PTFE)	20 mL	00350821043685	Grey	No	
012	0026_MW016_220207	HDPE (no PTFE)	20 mL	00350821043803	Grey	No	
013	0026_MW017_220207	HDPE (no PTFE)	20 mL	00350821043766	Grey	No	
013	0026_MW017_220207	HDPE (no PTFE)	20 mL	00350821043837	Grey	No	
013	0026_MW017_220207	HDPE (no PTFE)	20 mL	00350821043641	Grey	No	
014	0026_MW029_220208	HDPE (no PTFE)	20 mL	00350621034638	Grey	No	
014	0026_MW029_220208	HDPE (no PTFE)	20 mL	00350621034580	Grey	No	
014	0026_MW029_220208	HDPE (no PTFE)	20 mL	00350621034624	Grey	No	
015	0026_MW037_220209	HDPE (no PTFE)	20 mL	00350621034362	Grey	No	
015	0026_MW037_220209	HDPE (no PTFE)	20 mL	00350621034585	Grey	No	
015	0026_MW037_220209	HDPE (no PTFE)	20 mL	00352010029396	Grey	No	
016	0026_MW038_220207	HDPE (no PTFE)	20 mL	00350821044001	Grey	No	
016	0026_MW038_220207	HDPE (no PTFE)	20 mL	00350821043768	Grey	No	
016	0026_MW038_220207	HDPE (no PTFE)	20 mL	00350621022066	Grey	No	
016	0026_MW038_220207	HDPE (no PTFE)	20 mL	00350821043935	Grey	No	
017	0026_MW039_220210	HDPE (no PTFE)	20 mL	00352010086289	Grey	No	
017	0026_MW039_220210	HDPE (no PTFE)	20 mL	00352010029124	Grey	No	
018	0026_MW045_220207	HDPE (no PTFE)	20 mL	00350821043610	Grey	No	
018	0026_MW045_220207	HDPE (no PTFE)	20 mL	00350821047974	Grey	No	

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

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018	0026_MW045_220207	HDPE (no PTFE)	20 mL	00350821043854	Grey	No	
019	0026_MW046_220207	HDPE (no PTFE)	20 mL	00350821043800	Grey	No	
019	0026_MW046_220207	HDPE (no PTFE)	20 mL	00350821044050	Grey	No	
019	0026_MW046_220207	HDPE (no PTFE)	20 mL	00350821043628	Grey	No	
020	0026_MW018_220209	HDPE (no PTFE)	20 mL	00352010029349	Grey	No	
020	0026_MW018_220209	HDPE (no PTFE)	20 mL	00352010029300	Grey	No	
020	0026_MW018_220209	HDPE (no PTFE)	20 mL	00352010029127	Grey	No	
021	0026_MW044_220209	HDPE (no PTFE)	20 mL	00352010029428	Grey	No	
021	0026_MW044_220209	HDPE (no PTFE)	20 mL	00352010029381	Grey	No	
021	0026_MW044_220209	HDPE (no PTFE)	20 mL	00350019045141	Grey	No	
022	0026_MW072_220208	HDPE (no PTFE)	20 mL	00352010029464	Grey	No	
022	0026_MW072_220208	HDPE (no PTFE)	20 mL	00350621034351	Grey	No	
022	0026_MW072_220208	HDPE (no PTFE)	20 mL	00352010029294	Grey	No	
022	0026_MW072_220208	HDPE (no PTFE)	20 mL	00350621034476	Grey	No	
023	0026_MW073_220208	HDPE (no PTFE)	20 mL	00350019044903	Grey	No	
023	0026_MW073_220208	HDPE (no PTFE)	20 mL	00350621034396	Grey	No	
023	0026_MW073_220208	HDPE (no PTFE)	20 mL	00350019044864	Grey	No	
024	0026_SW007_220207	HDPE (no PTFE)	20 mL	00350821044024	Grey	No	
024	0026_SW007_220207	HDPE (no PTFE)	20 mL	00350821044039	Grey	No	
024	0026_SW007_220207	HDPE (no PTFE)	20 mL	00350821043642	Grey	No	
025	0026_SW009_220209	HDPE (no PTFE)	20 mL	00352010029208	Grey	No	
025	0026_SW009_220209	HDPE (no PTFE)	20 mL	00350019044875	Grey	No	
025	0026_SW009_220209	HDPE (no PTFE)	20 mL	00352010029235	Grey	No	
026	0026_SW012_220210	HDPE (no PTFE)	20 mL	00350621034612	Grey	No	
026	0026_SW012_220210	HDPE (no PTFE)	20 mL	00350621034575	Grey	No	
026	0026_SW012_220210	HDPE (no PTFE)	20 mL	00350621034508	Grey	No	
027	0026_SW018_220207	HDPE (no PTFE)	20 mL	00350821043741	Grey	No	

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: Mat Jenkins CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

PRIMARY SAMPLER: Andrew Spoor QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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027	0026_SW018_220207	HDPE (no PTFE)	20 mL	00350821043880	Grey	No	
027	0026_SW018_220207	HDPE (no PTFE)	20 mL	00350821044023	Grey	No	
028	0026_SW001_220208	HDPE (no PTFE)	20 mL	00352010029284	Grey	No	
028	0026_SW001_220208	HDPE (no PTFE)	20 mL	00352010029121	Grey	No	
~~028~~	~~0026_SW001_220208~~	~~HDPE (no PTFE)~~	~~20 mL~~	~~00352010029378~~	Grey	~~No~~	
028	0026_SW001_220208	HDPE (no PTFE)	20 mL	00352010029431	Grey	No	
028	0026_SW001_220208	HDPE (no PTFE)	20 mL	00352010029144	Grey	No	
029	0026_SW002_220208	HDPE (no PTFE)	20 mL	00352010029221	Grey	No	
029	0026_SW002_220208	HDPE (no PTFE)	20 mL	00352010029495	Grey	No	
029	0026_SW002_220208	HDPE (no PTFE)	20 mL	00352010029154	Grey	No	
029	0026_SW002_220208	HDPE (no PTFE)	20 mL	00352010029366	Grey	No	
029	0026_SW002_220208	HDPE (no PTFE)	20 mL	00352010029364	Grey	No	
030	0026_SW004B_220208	HDPE (no PTFE)	20 mL	00352010029406	Grey	No	
030	0026_SW004B_220208	HDPE (no PTFE)	20 mL	00352010029272	Grey	No	
030	0026_SW004B_220208	HDPE (no PTFE)	20 mL	00352010029453	Grey	No	
030	0026_SW004B_220208	HDPE (no PTFE)	20 mL	00352010029465	Grey	No	
030	0026_SW004B_220208	HDPE (no PTFE)	20 mL	00350621034625	Grey	No	
031	0026_SW005_220208	HDPE (no PTFE)	20 mL	00350621034429	Grey	No	
031	0026_SW005_220208	HDPE (no PTFE)	20 mL	00350621034380	Grey	No	
031	0026_SW005_220208	HDPE (no PTFE)	20 mL	00350621034573	Grey	No	
031	0026_SW005_220208	HDPE (no PTFE)	20 mL	00352010029323	Grey	No	
031	0026_SW005_220208	HDPE (no PTFE)	20 mL	00350621034594	Grey	No	
032	0026_SW006_220208	HDPE (no PTFE)	20 mL	00350621034505	Grey	No	
032	0026_SW006_220208	HDPE (no PTFE)	20 mL	00350621034460	Grey	No	
032	0026_SW006_220208	HDPE (no PTFE)	20 mL	00352010029220	Grey	No	
032	0026_SW006_220208	HDPE (no PTFE)	20 mL	00352010029122	Grey	No	
032	0026_SW006_220208	HDPE (no PTFE)	20 mL	00350621034557	Grey	No	

CHAIN OF CUSTODY

ALS COC#: **33248** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: Mat Jenkins CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

PRIMARY SAMPLER: Andrew Spoor QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

033	0026_SW008_220210	HDPE (no PTFE)	20 mL	00350621034563	Grey	No	
033	0026_SW008_220210	HDPE (no PTFE)	20 mL	00350621034546	Grey	No	
033	0026_SW008_220210	HDPE (no PTFE)	20 mL	00350621034556	Grey	No	
034	0026_SW013_220208	HDPE (no PTFE)	20 mL	00350621034543	Grey	No	
~~034~~	~~0026_SW013_220208~~	~~HDPE (no PTFE)~~	~~20 mL~~	~~00350621034570~~	~~Grey~~	~~No~~	
034	0026_SW013_220208	HDPE (no PTFE)	20 mL	00350621034398	Grey	No	
034	0026_SW013_220208	HDPE (no PTFE)	20 mL	00352010029304	Grey	No	
034	0026_SW013_220208	HDPE (no PTFE)	20 mL	00352010029402	Grey	No	
035	0026_SW014_220208	HDPE (no PTFE)	20 mL	00352010086267	Grey	No	
035	0026_SW014_220208	HDPE (no PTFE)	20 mL	00350621034581	Grey	No	
035	0026_SW014_220208	HDPE (no PTFE)	20 mL	00350621034426	Grey	No	
035	0026_SW014_220208	HDPE (no PTFE)	20 mL	00350621034607	Grey	No	
035	0026_SW014_220208	HDPE (no PTFE)	20 mL	00352010085680	Grey	No	
036	0026_SW020_220208	HDPE (no PTFE)	20 mL	00350019123957	Grey	No	
036	0026_SW020_220208	HDPE (no PTFE)	20 mL	00350621034587	Grey	No	
036	0026_SW020_220208	HDPE (no PTFE)	20 mL	00350621034443	Grey	No	
036	0026_SW020_220208	HDPE (no PTFE)	20 mL	00350621034431	Grey	No	
036	0026_SW020_220208	HDPE (no PTFE)	20 mL	00350019123942	Grey	No	
037	0026_QC100_220207	HDPE (no PTFE)	20 mL	00350821043851	Grey	No	
037	0026_QC100_220207	HDPE (no PTFE)	20 mL	00350821043636	Grey	No	
038	0026_QC101_220208	HDPE (no PTFE)	20 mL	00350019045121	Grey	No	
038	0026_QC101_220208	HDPE (no PTFE)	20 mL	00350621034497	Grey	No	
038	0026_QC101_220208	HDPE (no PTFE)	20 mL	00350019045081	Grey	No	
039	0026_QC102_220208	HDPE (no PTFE)	20 mL	00350621034584	Grey	No	
039	0026_QC102_220208	HDPE (no PTFE)	20 mL	00350019143348	Grey	No	
039	0026_QC102_220208	HDPE (no PTFE)	20 mL	00350019143343	Grey	No	
040	0026_QC103_220209	HDPE (no PTFE)	20 mL	00350019045106	Grey	No	

CHAIN OF CUSTODY

COC#: **33248** *ALS Laboratory:* ES Sydney

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Main Albatross

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Andrew Spoor

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

040	0026_QC103_220209	HDPE (no PTFE)	20 mL	00350621034596	Grey	No	
040	0026_QC103_220209	HDPE (no PTFE)	20 mL	00350621034641	Grey	No	
041	0026_QC300_220207	HDPE (no PTFE)	20 mL	00352010029268	Grey	No	
041	0026_QC300_220207	HDPE (no PTFE)	20 mL	00352010029288	Grey	No	
042	0026_QC301_220208	HDPE (no PTFE)	20 mL	00350621034498	Grey	No	
042	0026_QC301_220208	HDPE (no PTFE)	20 mL	00350621034643	Grey	No	
043	0026_QC302_220209	HDPE (no PTFE)	20 mL	00352010029281	Grey	No	
043	0026_QC302_220209	HDPE (no PTFE)	20 mL	00352010029295	Grey	No	
044	0026_QC303_220210	HDPE (no PTFE)	20 mL	00352010085546	Grey	No	
044	0026_QC303_220210	HDPE (no PTFE)	20 mL	00350019143315	Grey	No	
044	0026_QC303_220210	HDPE (no PTFE)	20 mL	00350019123952	Grey	No	

Total Bottle Count: ALS: 145, Non ALS: 0

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204624**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
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_0026_PFASOMP	Date Samples Received	: 11-Feb-2022 09:00
Order number	: 60612562_3.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33249	Issue Date	: 16-Feb-2022 15:29
Sampler	: ANDREW SPOOR, JESSICA ROY		
Site	: Resi 1		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	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 Contact 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	0026_MW024_220209	0026_MW031_220209	----	----	----
			Sampling date / time	09-Feb-2022 09:45	09-Feb-2022 10:21	----	----	----
Compound	CAS Number	LOR	Unit	ES2204624-001	ES2204624-002	--------	--------	--------
				Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	**0.17**	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	**0.08**	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.03**	**0.04**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.02**	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	**0.04**	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW024_220209	0026_MW031_220209	----	----	----
			Sampling date / time	09-Feb-2022 09:45	09-Feb-2022 10:21	----	----	----
Compound	CAS Number	LOR	Unit	ES2204624-001	ES2204624-002	--------	--------	--------
				Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**0.05**	**0.33**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.05**	**0.04**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.05**	**0.25**	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**97.5**	**103**	----	----	----
13C8-PFOA	----	0.02	%	**96.0**	**92.6**	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**

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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2204624**		Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**		Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS		Contact	: Christopher Redford
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_0026_PFASOMP		Date Samples Received	: 11-Feb-2022
Order number	: 60612562_3.1		Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33249		Issue Date	: 16-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY			
Site	: Resi 1			
Quote number	: SY/139/19 v4 60612562_3.1			
No. of samples received	: 2			
No. of samples analysed	: 2			

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

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	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: 4172305)									
ES2204594-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP2201531-065	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4172305)									
ES2204594-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4172305) - continued									
EP2201531-065	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4172305)									
ES2204594-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP2201531-065	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4172305)									
ES2204594-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4172305) - continued									
ES2204594-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP2201531-065	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4172305)									
ES2204594-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP2201531-065	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172305)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	128	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	118	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	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172305)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	108	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	128	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	113	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	114	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	114	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	126	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172305)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	112	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	118	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	115	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172305)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	121	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	104	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

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172305) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	102	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172305)							
ES2204594-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	116	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	103	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	122	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	107	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	117	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172305)							
ES2204594-001	Anonymous	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	112	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	121	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	104	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	108	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	113	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	123	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172305)							
ES2204594-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	107	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	97.1	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	113	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	112	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.6	65.0	136

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172305) - continued							
ES2204594-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172305)							
ES2204594-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	114	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	99.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	110	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	91.6	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2204624**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Telephone	: +61 2 8784 8555
Project	: NSW_0026_PFASOMP	Date Samples Received	: 11-Feb-2022
Site	: Resi 1	Issue Date	: 16-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY	No. of samples received	: 2
Order number	: 60612562_3.1	No. of samples analysed	: 2

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **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)								
0026_MW024_220209,	0026_MW031_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**16-Feb-2022**	08-Aug-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0026_MW024_220209,	0026_MW031_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**16-Feb-2022**	08-Aug-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0026_MW024_220209,	0026_MW031_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**16-Feb-2022**	08-Aug-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0026_MW024_220209,	0026_MW031_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**16-Feb-2022**	08-Aug-2022	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0026_MW024_220209,	0026_MW031_220209	**09-Feb-2022**	**15-Feb-2022**	08-Aug-2022	✓	**16-Feb-2022**	08-Aug-2022	✓

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	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
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.

Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2204624**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mat.jenkins@aecom.com	E-mail	: Christopher.Redford@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0026_PFASOMP	Page	: 1 of 4
Order number	: 60612562_3.1	Quote number	: ES2021AECOMAU0025 (SY/139/19 v4 60612562_3.1)
C-O-C number	: 33249	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Resi 1		
Sampler	: ANDREW SPOOR, JESSICA ROY		

Dates

Date Samples Received	: 11-Feb-2022 09:00	Issue Date	: 11-Feb-2022
Client Requested Due Date	: 18-Feb-2022	Scheduled Reporting Date	: **18-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.1' c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **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)
ES2204624-001	09-Feb-2022 09:45	0026_MW024_220209	✓
ES2204624-002	09-Feb-2022 10:21	0026_MW031_220209	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
ANDREW SPOOR		
- *AU Certificate of Analysis - NATA (COA)	Email	Andrew.Spoor@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Andrew.Spoor@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Andrew.Spoor@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Andrew.Spoor@aecom.com
- Chain of Custody (CoC) (COC)	Email	Andrew.Spoor@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Andrew.Spoor@aecom.com
- EDI Format - XTab (XTAB)	Email	Andrew.Spoor@aecom.com
CATHERINE HANSEN		
- *AU Certificate of Analysis - NATA (COA)	Email	catherine.hansen@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	catherine.hansen@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	catherine.hansen@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	catherine.hansen@aecom.com
- Chain of Custody (CoC) (COC)	Email	catherine.hansen@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	catherine.hansen@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	catherine.hansen@aecom.com
DERP ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@esdat.com.au
DERP REPORTS		
- *AU Certificate of Analysis - NATA (COA)	Email	derp.labreports@escis.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	derp.labreports@escis.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	derp.labreports@escis.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	derp.labreports@escis.com.au
- Chain of Custody (CoC) (COC)	Email	derp.labreports@escis.com.au
- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@escis.com.au
- EDI Format - XTab (XTAB)	Email	derp.labreports@escis.com.au
esdat.apac esdat.apac		
- *AU Certificate of Analysis - NATA (COA)	Email	esdat.apac@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	esdat.apac@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	esdat.apac@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	esdat.apac@aecom.com
- Chain of Custody (CoC) (COC)	Email	esdat.apac@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	esdat.apac@aecom.com
- EDI Format - XTab (XTAB)	Email	esdat.apac@aecom.com
GEOFF TREDINNICK		
- *AU Certificate of Analysis - NATA (COA)	Email	Geoff.Tredinnick@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Geoff.Tredinnick@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Tax Invoice (INV)	Email	Geoff.Tredinnick@aecom.com
- Chain of Custody (CoC) (COC)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Geoff.Tredinnick@aecom.com
JESSICA ROY		
- *AU Certificate of Analysis - NATA (COA)	Email	jessica.roy@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jessica.roy@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jessica.roy@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jessica.roy@aecom.com
- Chain of Custody (CoC) (COC)	Email	jessica.roy@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	jessica.roy@aecom.com
- EDI Format - XTab (XTAB)	Email	jessica.roy@aecom.com
MAT JENKINS		
- *AU Certificate of Analysis - NATA (COA)	Email	mat.jenkins@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mat.jenkins@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mat.jenkins@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mat.jenkins@aecom.com
- Chain of Custody (CoC) (COC)	Email	mat.jenkins@aecom.com

MAT JENKINS

- EDI Format - ENMRG (ENMRG)	Email	mat.jenkins@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	mat.jenkins@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	mat.jenkins@aecom.com
- EDI Format - XTab (XTAB)	Email	mat.jenkins@aecom.com

CHAIN OF CUSTODY

ALS COC#: **33249** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY: ASD	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 11/2/22 9AM	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Resi 1
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

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: 3.1 °C
Other comments:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0026_MW024_220209		09/02/2022 09:45 AM	Water	ALS: 3 Non ALS: 0	No	X		
002	0026_MW031_220209		09/02/2022 10:21 AM	Water	ALS: 3 Non ALS: 0	No	X		

Environmental Division
Sydney
Work Order Reference
ES2204624

Telephone : + 61-2-8784 8555

CHAIN OF CUSTODY

COC#: **33249** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	**RECEIVED BY:** ASD	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE TIME:	DATE TIME: 11/2/22 9AM	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: Resi 1

ORDER NO: 60612562_3.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: ˚C

Other comments:

PROJECT MANAGER: Mat Jenkins CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:

PRIMARY SAMPLER: Andrew Spoor QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0026_MW024_220209	HDPE (no PTFE)	20 mL	00350621034371	Grey	No	
001	0026_MW024_220209	HDPE (no PTFE)	20 mL	00350019143352	Grey	No	
001	0026_MW024_220209	HDPE (no PTFE)	20 mL	00350019143232	Grey	No	
002	0026_MW031_220209	HDPE (no PTFE)	20 mL	00352010029355	Grey	No	
002	0026_MW031_220209	HDPE (no PTFE)	20 mL	00352010029333	Grey	No	
002	0026_MW031_220209	HDPE (no PTFE)	20 mL	00350621034485	Grey	No	

Total Bottle Count: ALS: 6, Non ALS: 0

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204625**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
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_0026_PFASOMP	Date Samples Received	: 11-Feb-2022 09:00
Order number	: 60612562_3.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33250	Issue Date	: 15-Feb-2022 13:04
Sampler	: ANDREW SPOOR, JESSICA ROY		
Site	: Resi 2		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	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 Contact 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	0026_MW026_220209	----	----	----	----
			Sampling date / time	09-Feb-2022 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204625-001	--------	--------	--------	--------
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.42**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.35**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**2.27**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	**0.09**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**1.48**	----	----	----	----
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	**0.16**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.68**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.08**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.09**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)			Sample ID	0026_MW026_220209	----	----	----	----
			Sampling date / time	09-Feb-2022 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204625-001	--------	--------	--------	--------
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**5.62**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**3.75**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**5.18**	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**97.4**	----	----	----	----
13C8-PFOA	----	0.02	%	**99.9**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**

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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2204625**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
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_0026_PFASOMP	Date Samples Received	: 11-Feb-2022
Order number	: 60612562_3.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: 33250	Issue Date	: 15-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY		
Site	: Resi 2		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	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: 4168457)									
ES2204578-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2204578-002	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4168457)									
ES2204578-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4168457) - continued									
ES2204578-002	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4168457)									
ES2204578-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2204578-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4168457)									
ES2204578-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4168457) - continued									
ES2204578-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2204578-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4168457)									
ES2204578-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2204578-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4168457)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	97.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	91.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	101	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168457)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	92.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	93.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	115	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168457)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	87.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	107	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.1	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	101	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.7	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	91.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168457)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	98.8	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	106	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168457) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	106	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	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4168457)							
ES2204578-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	109	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	96.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	94.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	98.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	99.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	104	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168457)							
ES2204578-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	117	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	110	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	101	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	94.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	89.2	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	88.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	112	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168457)							
ES2204578-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	87.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.1	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	101	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	96.0	65.0	136

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168457) - continued							
ES2204578-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	95.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168457)							
ES2204578-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	90.8	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	98.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	96.8	71.4	144

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2204625**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Telephone	: +61 2 8784 8555
Project	: NSW_0026_PFASOMP	Date Samples Received	: 11-Feb-2022
Site	: Resi 2	Issue Date	: 15-Feb-2022
Sampler	: ANDREW SPOOR, JESSICA ROY	No. of samples received	: 1
Order number	: 60612562_3.1	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method	*Sample Date*	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)		*Date extracted*	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0026_MW026_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0026_MW026_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0026_MW026_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0026_MW026_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0026_MW026_220209	**09-Feb-2022**	**14-Feb-2022**	08-Aug-2022	✓	**14-Feb-2022**	08-Aug-2022	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

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

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

Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2204625**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Christopher Redford
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mat.jenkins@aecom.com	E-mail	: Christopher.Redford@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0026_PFASOMP	Page	: 1 of 3
Order number	: 60612562_3.1	Quote number	: ES2021AECOMAU0025 (SY/139/19 v4 60612562_3.1)
C-O-C number	: 33250	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Resi 2		
Sampler	: ANDREW SPOOR, JESSICA ROY		

Dates

Date Samples Received	: 11-Feb-2022 09:00	Issue Date	: 11-Feb-2022
Client Requested Due Date	: 17-Feb-2022	Scheduled Reporting Date	: **17-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.1' C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2204625-001	09-Feb-2022 11:06	0026_MW026_220209	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
ANDREW SPOOR		
- *AU Certificate of Analysis - NATA (COA)	Email	Andrew.Spoor@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Andrew.Spoor@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Andrew.Spoor@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Andrew.Spoor@aecom.com
- Chain of Custody (CoC) (COC)	Email	Andrew.Spoor@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Andrew.Spoor@aecom.com
- EDI Format - XTab (XTAB)	Email	Andrew.Spoor@aecom.com
CATHERINE HANSEN		
- *AU Certificate of Analysis - NATA (COA)	Email	catherine.hansen@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	catherine.hansen@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	catherine.hansen@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	catherine.hansen@aecom.com
- Chain of Custody (CoC) (COC)	Email	catherine.hansen@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	catherine.hansen@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	catherine.hansen@aecom.com
DERP ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@esdat.com.au
esdat.apac esdat.apac		
- *AU Certificate of Analysis - NATA (COA)	Email	esdat.apac@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	esdat.apac@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	esdat.apac@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	esdat.apac@aecom.com
- Chain of Custody (CoC) (COC)	Email	esdat.apac@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	esdat.apac@aecom.com
- EDI Format - XTab (XTAB)	Email	esdat.apac@aecom.com
GEOFF TREDINNICK		
- *AU Certificate of Analysis - NATA (COA)	Email	Geoff.Tredinnick@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Geoff.Tredinnick@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Tax Invoice (INV)	Email	Geoff.Tredinnick@aecom.com
- Chain of Custody (CoC) (COC)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Geoff.Tredinnick@aecom.com
JESSICA ROY		
- *AU Certificate of Analysis - NATA (COA)	Email	jessica.roy@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jessica.roy@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jessica.roy@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jessica.roy@aecom.com
- Chain of Custody (CoC) (COC)	Email	jessica.roy@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	jessica.roy@aecom.com
- EDI Format - XTab (XTAB)	Email	jessica.roy@aecom.com
MAT JENKINS		
- *AU Certificate of Analysis - NATA (COA)	Email	mat.jenkins@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mat.jenkins@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mat.jenkins@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mat.jenkins@aecom.com
- Chain of Custody (CoC) (COC)	Email	mat.jenkins@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	mat.jenkins@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	mat.jenkins@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	mat.jenkins@aecom.com
- EDI Format - XTab (XTAB)	Email	mat.jenkins@aecom.com

CHAIN OF CUSTODY

COC#: **33250** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY: ASD	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 11/2/22 9AM	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Resi 2
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

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	0026_MW026_220209		09/02/2022 11:06 AM	Water	ALS: 3 Non ALS: 0	No	X		

Environmental Division
Sydney
Work Order Reference
ES2204625

Telephone : + 61-2-8784 8555

CHAIN OF CUSTODY

COC#: **33250** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY: ASD	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 11/2/22 9AM	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: Resi 2
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Andrew Spoor

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE:
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

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:			

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0026_MW026_220209	HDPE (no PTFE)	20 mL	00352010029297	Grey	No	
001	0026_MW026_220209	HDPE (no PTFE)	20 mL	00352010029394	Grey	No	
001	0026_MW026_220209	HDPE (no PTFE)	20 mL	00352010029276	Grey	No	

Total Bottle Count: ALS: 3, 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 288597

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	Catherine Hansen
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**60612562 - 3.1 NSW_0026_PFASOMP**
Number of Samples	4 Water
Date samples received	11/02/2022
Date completed instructions received	11/02/2022

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	18/02/2022
Date of Issue	15/02/2022

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Results Approved By
Josh Williams, LC Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Extended					
Our Reference		288597-1	288597-2	288597-3	288597-4
Your Reference	UNITS	0026_QC200_22 0207	0026_QC201_22 0208	0026_QC202_22 0208	0026_QC203_22 0209
Date Sampled		07/02/2022	08/02/2022	08/02/2022	09/02/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Date analysed	-	14/02/2022	14/02/2022	14/02/2022	14/02/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.03	0.14
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.01	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<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*	%	97	97	98	95
Surrogate $^{13}C_2$ *PFOA*	%	103	101	100	98
Extracted ISTD $^{13}C_3$ *PFBS*	%	100	96	95	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	102	99	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	99	101	101

PFAS in Waters Extended					
Our Reference		288597-1	288597-2	288597-3	288597-4
Your Reference	UNITS	0026_QC200_22 0207	0026_QC201_22 0208	0026_QC202_22 0208	0026_QC203_22 0209
Date Sampled		07/02/2022	08/02/2022	08/02/2022	09/02/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	69	71	90	99
Extracted ISTD $^{13}C_3$ *PFPeA*	%	87	82	98	102
Extracted ISTD $^{13}C_2$ *PFHxA*	%	94	89	97	102
Extracted ISTD $^{13}C_4$ *PFHpA*	%	94	89	97	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	89	93	98
Extracted ISTD $^{13}C_5$ *PFNA*	%	113	110	117	116
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	93	102	105
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	100	87	96	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	104	112	111
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	102	77	86	90
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	52	50	97	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	66	62	99	106
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	76	77	107	113
Extracted ISTD $^{13}C_8$ *FOSA*	%	109	104	108	106
Extracted ISTD d_3 *N MeFOSA*	%	101	94	98	99
Extracted ISTD d_5 *N EtFOSA*	%	106	97	100	103
Extracted ISTD d_7 *N MeFOSE*	%	108	106	108	105
Extracted ISTD d_9 *N EtFOSE*	%	118	116	115	118
Extracted ISTD d_3 *N MeFOSAA*	%	80	70	103	101
Extracted ISTD d_5 *N EtFOSAA*	%	86	79	104	106
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.04	0.16
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.01	0.02
Total Positive PFAS	µg/L	<0.01	<0.01	0.04	0.19

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 5.3 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	[NT]
Date prepared	-			14/02/2022	[NT]	[NT]	[NT]	[NT]	14/02/2022	[NT]
Date analysed	-			14/02/2022	[NT]	[NT]	[NT]	[NT]	14/02/2022	[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]	101	[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]	100	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	107	[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]	100	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	107	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	133	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	107	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	111	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	92	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	74	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	101	[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.

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.

AECOM

Chain of Custody

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Laboratory Details

Lab. Name: Envirolab
Lab. Address: 12 Ashley St, Chaswood NSW 2067
Contact Name: Brenda Hong
Lab. Ref:

Tel: 02 8784 8555
Fax: NA
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Andrew Spoor & Jessica Roy
Project Name: NSW_0026_PFASOMP
AECOM Project #: 60612562 - 3.1
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? X N/A	
3. Is any sediment layer present in waters to be excluded from extractions? X N/A	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1? X N/A	
5. Special storage requirements? (details: X N/A)	

6. Report Format: ESdat
7. Project Manager: G. TREDINNICK

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: sed	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	PFAS in Water Extended	HOLD	Notes
1	0026_QC200_220207	7/02/2022		X				X		3	X		
2	0026_QC201_220208	8/02/2022		X				X		3	X		
3	0026_QC202_220208	8/02/2022		X				X		4	X		
4	0026_QC203_220209	9/02/2022		X				X		5	X		

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 288547
Date Received: 11/2/2022
Time Received: 1300
Received by: TJ HAN
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: geoff.tredinnick@aecom.com

Lab Report No | Esky ID

Relinquished by: J. ROY	Signed:	Date: 10-02-22	Relinquished by: / Signed: / Date:
Received by: T.J HAN	Signed:	Date: 11.2.22 @ 1300	Received by: / Signed: / Date:

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	Catherine Hansen

Sample Login Details	
Your reference	60612562 - 3.1 NSW_0026_PFASOMP
Envirolab Reference	288597
Date Sample Received	11/02/2022
Date Instructions Received	11/02/2022
Date Results Expected to be Reported	18/02/2022

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	4 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	5
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

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
0026_QC200_220207	✓
0026_QC201_220208	✓
0026_QC202_220208	✓
0026_QC203_220209	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info
Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Prepared for
Department of Defence
ABN: 68 706 814 312

AECOM

Sampling Event Factual Report, August 2022

PFAS OMP - HMAS Albatross

18-Oct-2022
HMAS Albatross
Doc No. 20221018_OMP002_Albatross_0

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Delivering a better world

Sampling Event Factual Report, August 2022

PFAS OMP - HMAS Albatross

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

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18-Oct-2022

Job No.: 60612562

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

Quality Information

Document	Sampling Event Factual Report, August 2022
Ref	60612562
Date	18-Oct-2022
Prepared by	[redacted]
Reviewed by	

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	02-Sep-2022	Draft	[redacted]	
B	06-Oct-2022	Draft		
0	18-Oct-2022	Final		

Table of Contents

List of Tables (in Text)

List of Acronyms

Acronyms	Term
ADWG	Australian Drinking Water Guidelines
AECOM	AECOM Australia Pty Ltd
AHD	Australian Height Datum
ASC NEPM	Assessment of Site Contamination National Environment Protection Measure
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved Oxygen
DoH	Department of Health
DQI	Data Quality Indicator
EC	Electrical conductivity
HEPA	Heads of Environment Protection Authority
HMAS	His/Her Majesty's Australian Ship
LOR	Limit of Reporting
MW	Monitoring Well
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
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RAN	Royal Australian Navy
SAQP	Sample and Analysis Quality Plan
SW	Surface Water
SWL	Standing Water Level

Units	Term
g	Gram
km	Kilometre
L	Litre
m	Metre

Units	Term
m btoc	Metres below top of casing
mg/kg	Milligrams per kilogram
µg/L	Micrograms per Litre

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 HMAS Albatross (the 'Site') in the NSW and Jervis Bay Region. The location of the Site and the Management Area are shown on **Figure F1** (in **Appendix A**).

The OMP (Defence, 2019) for the Site outlines the requirement to complete groundwater and/or surface water sampling at pre-determined intervals during the initial 3-year implementation period.

Following each sampling event, a sampling event factual report will be prepared. Annual interpretative 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 biannual surface water sampling event completed in August 2022, specifically highlighting first time detections and/or new exceedances of human health and/or ecological screening criteria for Perfluorooctanesulfonic acid (PFOS) + Perfluorohexanesulfonic acid (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 overarching objective of the monitoring program set out in the OMP (Defence, 2019) is to provide information on changes to PFAS contamination originating from Defence property to inform risk management decisions by Defence to protect human health and the environment.

The specific aims of the OMP (Defence, 2019) are to:

- implement surface water and groundwater monitoring to assess the changes in the nature and extent (spatial and temporal) of PFAS concentrations on and off base, focusing where elevated risks have been identified and will need management
- collect further baseline data in groundwater and surface water, for comparison during and after remediation of hotspot/source areas to assess the success of the remediation and management methods
- monitor the migration of PFAS in groundwater from the Site, particularly in groundwater flowing from the northern boundary
- conduct surface water monitoring to assess seasonal effects on water flow and PFAS concentrations, including during or immediately after extreme or high rainfall events.

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

2.0 Scope of work

The biannual surface water sampling event was completed in general accordance with the SAQP (AECOM, 2022). In summary, the scope of works completed included:

- obtaining permission (where required) to conduct works at the Site
- surface water sampling and collection of water quality parameters at 13 surface water locations (refer to **Table 1** below and **Figure F2** in **Appendix A** for specific locations)
- collecting of field duplicate samples at a rate of 1 in 10 primary samples
- analysis of all samples for the 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.

2.1 Planned monitoring locations

The monitoring locations outlined within the SAQP (AECOM, 2022) for the planned biannual surface water sampling event are provided in **Table 1**.

Table 1 Surface Water Sampling Locations

Area	Description	Sampling Locations	Number of Locations	Total
On Site	Braidwood Road drain	SW007, SW018	2	4 Locations
	Yerriyong Gully	SW009, SW012	2	
Off Site	Cabbage Tree Creek	SW001	1	9 Locations
	Flat Rock Creek	SW002	1	
	Calymea Creek	SW004B	1	
	Braidwood Road drain	SW005, SW006, SW020	3	
	Currambene Creek	SW008	1	
	Parma Creek	SW013, SW014	2	

3.0 Deviations from the SAQP

The biannual surface water sampling event was completed in general accordance with the SAQP (AECOM, 2022) with the exception of the deviations outlined in **Table 2** below.

Table 2 Deviations from SAQP (AECOM, 2022)

SAQP	August 2022 Sampling Event
Surface water samples are to be collected by lowering a laboratory supplied container into the water with the cap immediately applied once the container is full.	Due to safety and access considerations, the surface water samples at locations SW001, SW005, SW009, and SW013 were collected using dedicated disposable bailers, before being decanted into laboratory supplied bottles. Given that sampling results for SW001, SW005, SW009, and SW013 were within the historical range reported at these locations, the change in sampling methodology is not considered to have impacted upon the reliability of the data for the purposes of the OMP.

4.0 Methodology

4.1 Sampling methodology

The methodology adopted for the biannual surface water sampling event was in general accordance with the SAQP (AECOM, 2022) and is summarised below:

Table 3 Sampling Methodology

Item	Details
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all surface water locations. A tabulated water quality parameters are presented in **Table T1** in **Appendix B**. Equipment calibration certificate is presented in **Appendix C**.
Sampling methodology-	The majority of surface water samples were collected by placing the laboratory supplied sample bottles immediately below the water surface with the cap applied once the container was full. Due to safety considerations, at locations SW001, SW005, SW009, and SW013 the samples were collected using dedicated, disposable bailers before being decanted into laboratory supplied bottles.
Sample analysis	Samples were submitted to the primary and secondary laboratories for analysis detailed in Section 4.6 of the SAQP (AECOM, 2022). ALS Environmental (ALS) Sydney, NSW was used as the primary laboratory. Envirolab Services Pty Ltd (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). Laboratory certificates are presented in **Appendix E**.
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 collected. To facilitate the QA/QC program the following sample types were obtained during the sampling program: • *primary duplicates* collected at a rate of a rate of one per 10 primary samples. • *secondary duplicates* collected at a rate of one per 10 primary samples. • *rinsate blanks* collected at a frequency of one per set of re-used sampling equipment per day where sampling equipment is reused between locations. For this biannual sampling event, the QA/QC samples included: • 2 x intra-laboratory duplicates, meeting the data quality indicator (DQI) • 2 x inter-laboratory duplicates, meeting the DQI Note that as no sampling equipment was re-used between locations, no rinsate blank samples were collected. The data validation assessment is presented in **Appendix D.**

4.3 Adopted Screening Criteria

Adopted screening criteria references the PFAS National Environmental Management Plan, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

- PFAS National Environmental Management Plan 2.0 (NEMP), (HEPA 2020), https://environment.gov.au/protection/publications/pfas-nemp-2.
- Department of Health (DoH), 2017. Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017 (FSANZ 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC 2019).
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM).

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

Table 4 Summary of Adopted Screening Criteria – Human Health

Pathway	Compound	Criteria	Comment/Reference
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	

Table 5 Summary of Adopted Screening Criteria – Ecological

Pathway	Compound	Criteria	Comment/Reference
Freshwater	PFOS	0.00023 µg/L	PFAS NEMP (HEPA, 2020) 99% species protection. *All surface water results were compared to these criteria*
	PFOA	19 µg/L	

Note: HEPA (2020) notes that the 99% species protection level for PFOS is close to the level of detection. Agencies may wish to apply a 'detect' threshold in such circumstances rather than a quantified measurement.

4.4 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 have 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 Field Observations

The field observations recorded during the sampling event are presented in **Table 6** below.

Table 6 General Field Observations

Items	Observations
Weather Conditions	During the sampling event on 15 August 2022, the weather was observed to be partly cloudy and windy, with a maximum daily temperature of 17.4˚C and maximum wind gusts of 72 km/h. No rainfall was recorded at the Nowra RAN Air AWS Station (ID 068072) in the 24 hours preceding the sampling event (bom.gov.au).
Estate Management Works or Training Activities	No estate management works, or training activities were observed during the biannual sampling event.

5.2 Surface Water Observations and Field Measurements

Table 7 Surface Water Observations and Field Measurements

Compound	Criteria
Fieldwork Dates	The sampling event was completed on 15 August 2022.
Access and Sample Collection	All sampling locations were accessible and able to be sampled.
Contamination Observations	While no obvious visible or olfactory signs of contamination were observed at the locations sampled, a hydrogen sulphide like odour was reported at location SW002.
Geochemical Parameters	Surface water geochemical parameters were measured prior to collecting samples. The stabilised readings are presented in **Table T1** in **Appendix B** and are summarised below: • dissolved oxygen ranged from 3.06 mg/L (SW007) to 11.65 mg/L (SW012) indicating moderately to well oxygenated conditions. • electrical conductivity ranged from 269.1 µS/cm (SW014) to 990 µS/cm (SW001) indicating fresh to marginally brackish conditions. • pH ranged from 4.77 (SW018) to 7.98 (SW009) indicating moderately acidic to slightly alkaline conditions. • corrected Redox ranged from 298.4 mV (SW002) to 401.3 mV (SW014) indicating reducing conditions.

5.2.1 Surface Water Analytical Results – PFAS

The PFAS analytical results for surface water samples from this event are presented in **Table T2** in **Appendix B**. In summary:

- PFAS was reported at concentrations equal to or above the laboratory LOR in the 13 primary surface water samples analysed.
- Concentrations of PFOS+PFHxS and/or PFOA exceeded the adopted human health screening criteria in eight of the primary surface water samples analysed.

- Concentrations of PFOS and/or PFOA exceeded the adopted ecological screening criteria in the 13 primary surface water samples analysed.

No first-time detections of PFOS+PFHxS and/or PFOA, or new exceedances of the adopted human health or ecological screening criteria for PFOS+PFHxS, PFOS and/or PFOA were reported in the data set.

5.3 Historical Sampling Data

Historical surface water sampling data are presented in **Table T3** in **Appendix B**.

6.0 Summary and Next Sampling Events

6.1 Summary of Monitoring Event

The biannual monitoring event was completed at the Site and publicly accessible land within and beyond the Management Area on 15 August 2022. The scope of works comprised the sampling of surface water at 13 locations.

The findings of the August 2022 sampling event and the recommended actions are summarised in **Table 8** below.

Table 8 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	The following were accessed and able to be sampled: • 13 surface water sampling locations	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.
Analytical Results	PFAS was detected at concentrations above the laboratory LOR in the 13 primary surface water samples analysed.	Nil.
First time detections of PFOS+PFHxS and/or PFOA	No surface water locations reported first-time detections of PFOS+PFHxS and/or PFOA	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.
New exceedance of Human Health Screening Criteria	No new exceedences of the adopted Human Health Screening criteria for PFOS+PFHxS and/or PFOA were reported in the surface water samples analysed.	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.
New exceedance of adopted ecological screening criteria	No surface water locations reported a new exceedance of the adopted ecological screening criteria for PFOS and/or PFOA.	Locations will be sampled again during the next scheduled sampling event to monitor concentrations over time.

6.2 Upcoming Sampling Events

The next OMP sampling event is scheduled to be undertaken in February 2023 (annual groundwater and surface water sampling).

6.3 Upcoming Annual Interpretive Report

The next annual interpretative report is scheduled to be delivered in Q4 2022.

7.0 References

AECOM, 2022. *Sampling and Analysis Quality Plan, HMAS Albatross, PFAS OMP*. Revision G, August 2022.

Aurecon Australasia, 2017. *Investigation of per- and poly-fluoroalkyl substances at HMAS Albatross – Detailed Site Investigation, Revision 3.0* – November 2017.

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

ASC NEPM, 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.*

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

ASC NEPM, 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*.

ASC NEPM, 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*.

Department of Defence, 2019. *PFAS Management Area Plan - HMAS Albatross.* July 2019.

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.

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*. August 2019.

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

Appendix A

Figures

Appendix A Figures

m
0 600 1,200

Legend

Site Boundary

Management Area

FIGURE F1: SITE LOCATION AND MANAGEMENT AREA

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
HMAS Albatross (0026)
August 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
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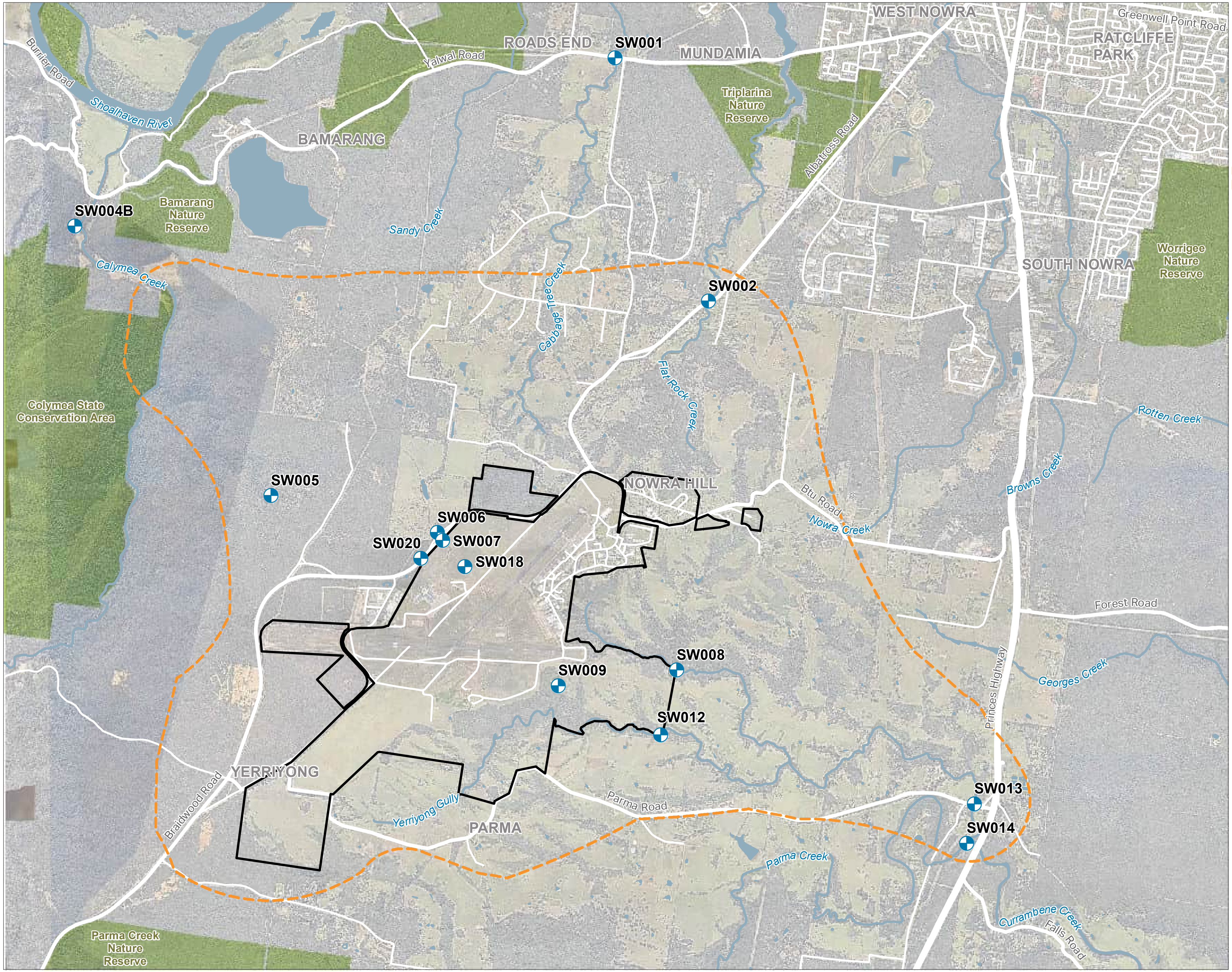
G:\GIS\7_Small_Jobs_INTERSTATE_PROJECTS\NTL_60612562\02_Maps\HMAS_Albatross\G012_01_A4L_Albatross_NOV2020_FactualReport_FIG-01_ManagmentArea_201117.mxd Date Saved: 17/11/2020



AECOM

N

0 0.5 1 km

Legend

- Site Boundary
- Management Area
- Surface Water Sample Location

FIGURE F2:
SURFACE WATER SAMPLING LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
Sampling Event Factual Report
Albatross (0026)
August 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612562

Source:
Department of Finance, Services and Innovation, 2019

G:\GIS\7_Small_Jobs_INTERSTATE_PROJECTS\NTL_60612562\02_Maps\HMAS_Albatross\G013_01_A4L_Albatross_NOV2020_FactualReport_FIG-02_SurfaceWaterSamplingLocations_201117.mxd Date Saved: 18/11/2020

Appendix B

Tables

Appendix B Tables

Table T1 - Surfacewater Geochemical Parameters

AECOM

Location	Alternate Name	Date	Easting	Northing	Location Comments	Observations	Redox Eh (Field)	Redox Er (Corrected)	Dissolved Oxygen (Field)	Temperature (Field)	Electric Conductivity (field)	pH (Field)
							Field					
							mV	mV	mg/L	oC	µS/cm	pH_Units
SW001	SW01	15/08/2022	276777.5	6136090	small creek approximately 4 m wide with water depth of approximately 0.3 m. shrubs and trees on bank. No flow observed	Yellow, no odour, biosheen appearance, no turbidity	162.9	368.7	5.20	12.1	990.0	6.63
SW002	SW02	15/08/2022	277762.3	6133532	small channel through underpass. Approximately 50 cm wide with a water depth of approximately 0.15 m. trees and shrubs in immediate area. Flow observed	Pale yellow, hydrogen sulphide odour, biosheen appearance, no turbidity	92.6	298.4	4.57	12.4	783.0	6.39
SW004B	SW03/SW04B	15/08/2022	271827.1067	6132551.557	creek approximately 10 m wide with an unknown depth of water. trees and shrubs on banks and surrounding areas. Flow observed	Pale yellow, no odour, no sheen, low turbidity	132.5	338.3	7.85	12.7	334.5	7.09
SW005	SW05	15/08/2022	273155.4	6131487	large pond /lagoon, approximately 15 m wide by 0.3 m with an unknown depth of water. Large trees and shrubs surrounding it. No flow observed	Clear, no odour, no sheen, no turbidity	174.2	380.0	7.50	14.3	495.8	6.88
SW006	BRD/SW06	15/08/2022	274906.3	6131095	drainage channel running off the base. Approximately 2 m wide with an approximate water depth of 0.2 m. thick vegetation in surrounding area, trees and shrubs. Flow observed	Clear, organic odour, no sheen, no turbidity	183.7	389.5	7.14	13.5	597.0	6.75
SW007	SW07	15/08/2022	274962.3	6131014	drainage channel. Approximately 300 m long by 10 m wide. mostly dry - some puddles. sample collected from wet section, approximately 10 m wide with an approximate water depth of 0.1-0.2 m deep. grasses and reeds surrounding puddle. No flow observed	Dark brown, organic odour, no sheen, turbid	139.6	345.4	3.06	11.9	674.0	6.02
SW008	SW5/SW08	15/08/2022	277426.5705	6129651.691	small creek approximately 3 m wide with an approximate depth of water of 0.2-0.3 m deep. grasses, trees and shrubs surrounding creek, brown suspended solids. Flow observed.	Clear, no odour, no sheen, low turbidity	171.9	377.7	9.62	11.7	922.0	7.25
SW009	SW09	15/08/2022	276181.0746	6129485.145	sewerage treatment pond. Approximately 70 m long, 30 m wide with an unknown depth of water. trees and shrubs all around the pond. No flow observed	Yellow brown, organic odour, no sheen, low turbidity	170.5	376.3	10.8	14.3	524.0	7.98
SW012	SW6/SW12	15/08/2022	277223.1171	6128990.807	small creek approximately 2 m wide with an approximate depth of water of 0.1 m deep. trees and shrubs growing on banks and floodplain. Flow observed	Clear, no odour, no sheen, no turbidity	190.9	396.7	11.65	12.3	594.0	7.47
SW013	SW13	15/08/2022	280563.9701	6128241.512	creek approximately 5 m wide with an approximate depth of water of 1 m. shrubs and trees on banks. Flow observed	Pale yellow, no odour, no sheen, no turbidity	189.6	395.4	7.20	12.9	782.0	7.11
SW014	SW14	15/08/2022	280483.2774	6127826.865	small river flowing into a rockpool. Approximately 5 m wide with an approximate depth of water of 0.3 m. no immediate vegetation but trees and shrubs in area. Flow observed	Clear, no odour, no sheen, no turbidity	195.5	401.3	7.94	13.3	269.1	6.77
SW018	SW18	15/08/2022	275199.0987	6130736.19	drainage channel. Approximately 300 m long by 10 m wide. mostly dry - some puddles. sample collected from standing puddle approximately 10 m long by 1 m wide with an approximate depth of water of 0.1-0.2 m deep. grasses surrounding puddle. No flow observed.	Pale yellow, no odour, no sheen, no turbidity	104.8	310.6	9.81	12.5	970.0	4.77
SW020	SW20	15/08/2022	274735.0845	6130823.253	drainage channel / creek. Approximately 2 m wide with an approximate depth of water of 0.1-0.2 m deep. Sparse trees and shrubs at the top of banks. Flow observed.	Clear, no odour, no sheen, no turbidity	154.1	359.9	11.26	12.7	296.4	6.39

Notes
mV milliVolts
mg/L milligrams per Litre
µS/cm micro Siemens per centremetre
Corrected field Redox measurement (Eh [mV]) = Er [mV] + 205.8

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Table T2 - Surface Water Analytical Results

											PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
						Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%							*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water						2	10																													
Location Code	Location Alt.	Field ID	Date	Sample Type	Lab Report Number																															
SW001	SW01	0026_SW001_220815	15/08/2022	Normal	ES2229041	0.07	<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	0.07
SW002	SW02	0026_SW002_220815	15/08/2022	Normal	ES2229041	0.03	<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	0.03
SW004B	SW03/04B	0026_SW004B_220815	15/08/2022	Normal	ES2229041	0.25	<0.01	*0.14*	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	0.28
SW005	SW05	0026_SW005_220815	15/08/2022	Normal	ES2229041	7.49	0.28	*4.22*	3.27	0.47	0.58	0.18	-	<0.02	0.1	0.18	1.02	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	10.5
SW006	BRD/SW06	0026_QC201_220815	15/08/2022	Interlab_D	303175	16	0.42	*12*	4.3	0.59	0.58	0.30	-	<0.02	0.1	0.26	1.3	0.22	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	20
SW006	BRD/SW06	0026_SW006_220815	15/08/2022	Normal	ES2229041	16.9	0.43	*12.2*	4.73	0.61	0.83	0.32	-	0.03	0.2	0.24	1.33	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	21.2
SW007	SW07	0026_QC101_220815	15/08/2022	Field_D	ES2229041	1.60	0.05	*0.97*	0.63	0.13	0.12	0.03	-	<0.02	<0.1	0.08	0.19	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	2.24
SW007	SW07	0026_SW007_220815	15/08/2022	Normal	ES2229041	1.90	0.05	*1.20*	0.70	0.12	0.12	0.04	-	<0.02	<0.1	0.07	0.19	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	2.53
SW008	SW5/SW08	0026_SW008_220815	15/08/2022	Normal	ES2229041	3.17	0.11	*1.28*	1.89	0.24	0.31	0.06	-	<0.02	<0.1	0.08	0.49	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	4.52
SW009	SW09	0026_SW009_220815	15/08/2022	Normal	ES2229041	12.4	0.21	*8.44*	3.93	0.31	0.45	0.20	-	<0.02	0.1	0.14	0.76	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	14.6
SW012	SW6/SW12	0026_SW012_220815	15/08/2022	Normal	ES2229041	6.40	0.13	*3.25*	3.15	0.35	0.42	0.11	-	<0.02	<0.1	0.10	0.54	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	8.13
SW013	SW13	0026_SW013_220815	15/08/2022	Normal	ES2229041	2.19	0.06	*1.03*	1.16	0.19	0.21	0.04	-	<0.02	<0.1	0.05	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	3.05
SW014	SW14	0026_SW014_220815	15/08/2022	Normal	ES2229041	0.01	<0.01	*0.01*	<0.01	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01
SW018	SW18	0026_QC100_220815	15/08/2022	Field_D	ES2229041	6.57	0.16	*3.09*	3.48	0.25	0.39	0.14	-	<0.02	<0.1	0.06	0.35	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	7.99
SW018	SW18	0026_SW018_220815	15/08/2022	Normal	ES2229041	6.41	0.16	*3.18*	3.23	0.26	0.37	0.15	-	<0.02	<0.1	0.06	0.35	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	7.84
SW020	SW20	0026_QC200_220815	15/08/2022	Interlab_D	303175	2.0	0.03	*0.77*	1.2	0.13	0.13	0.04	-	<0.02	<0.02	0.03	0.17	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	2.5
SW020	SW20	0026_SW020_220815	15/08/2022	Normal	ES2229041	2.13	0.04	*0.90*	1.23	0.13	0.18	0.05	-	<0.02	<0.1	0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.75

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 for PFOS+PFHxS or PFOA
	Denotes new exceedence of human health screening criteria for PFOS+PFHxS or PFOA
	Denotes new exceedence of ecological screening criteria for PFOS and/or PFOA

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Table T3 - Historical Surface Water Results

Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number					PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
SW001	SW01	0026_SW01_161115	15/11/2016	NSW_0026_PFAS	Normal	524131	0.07	<0.01	*0.05*	0.02	<0.01	-	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW001	SW01	0026_SW01_161213	13/12/2016	NSW_0026_PFAS	Normal	529832	0.09	<0.01	*0.06*	0.03	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW001	SW01	0026_SW01_161217	17/12/2016	NSW_0026_PFAS	Normal	528871	0.2	<0.01	*0.18*	0.02	<0.01	-	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW001	SW01	0026_SW01_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	0.05	<0.01	*0.05*	<0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW001	SW01	0026_SW01_170330	30/03/2017	NSW_0026_PFAS	Normal	540875	0.18	<0.01	*0.1*	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	-
SW001	SW01	SW01_270619	27/06/2019	NSW_0026_FSBGME	Normal	ES1920222	2.33	0.05	*0.97*	1.36	0.14	0.13	0.04	-	<0.02	<0.1	0.18	0.39	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.28	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.6
SW001	SW01	0026_SW01_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.07	<0.01	*0.04*	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	0.07
SW001	SW01	0026_SW01_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	0.04	<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	0.04
SW001	SW01	0026_SW001_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	0.03	<0.01	*0.03*	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03
SW001	SW01	0026_SW001_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	<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	<0.01
SW001	SW01	0026_SW001_200827	27/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	0.08	<0.01	*0.06*	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	0.08
SW001	SW01	0026_SW001_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	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	0.02
SW001	SW01	0026_QC101_210210	10/02/2021	NSW_0026_PFASOMP	Field_D	ES2105017	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	0.02
SW001	SW01	0026_SW001_210210	10/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	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	0.02
SW001	SW01	0026_SW001_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	0.05	<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	0.05
SW001	SW01	0026_SW001_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	0.09	<0.01	*0.05*	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	0.09
SW001	SW01	0026_SW001_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	0.07	<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	0.07
SW002	SW02	0026_QC164_161114	15/11/2016	NSW_0026_PFAS	Field_D	524131	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_QC164_161114	15/11/2016	NSW_0026_PFAS	Field_D	524131	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_QC244_161114	15/11/2016	NSW_0026_PFAS	Field_D	524131	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_SW02_161115	15/11/2016	NSW_0026_PFAS	Normal	524131	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_SW02_161213	13/12/2016	NSW_0026_PFAS	Normal	529832	0.05	0.04	*0.03*	0.02	<0.01	-	-	-	<0.01	<0.05	<0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_QC174_161217	17/12/2016	NSW_0026_PFAS	Field_D	528871	0.07	<0.01	*0.05*	0.02	<0.01	-	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_QC248_161217	17/12/2016	NSW_0026_PFAS	Interlab_D	ES1629267	0.10	0.01	*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	0.11
SW002	SW02	0026_SW02_161217	17/12/2016	NSW_0026_PFAS	Normal	528870	0.06	<0.01	*0.04*	0.02	<0.01	-	-	-	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW002	SW02	0026_QC179_170209	9/02/2017	NSW_0026_PFAS	Field_D	534013	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	0.04	<0.05	<0.01	<0.01	<0.01	<0.01	0.01	0.05	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_SW02_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	0.04	<0.01	*0.03*	0.01	<0.01	-	-	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW002	SW02	0026_SW02_170403	31/03/2017	NSW_0026_PFAS	Normal	541545	0.08	<0.01	*0.03*	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	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW002	SW02	SW02_270619	27/06/2019	NSW_0026_FSBGME	Normal	ES1920222	1.94	0.04	*0.75*	1.19	0.12	0.11	0.03	-	<0.02	<0.1	0.21	0.4	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.37	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.29
SW002	SW02	0026_SW02_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.05	<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	0.05
SW002	SW02	0026_SW02_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	0.12	<0.01	*0.08*	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	0.12
SW002	SW02	0026_SW002_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	0.06	<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	0.06
SW002	SW02	0026_SW002_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	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	0.02
SW002	SW02	0026_QC104_200827	27/08/2020	NSW_0026_PFASOMP	Field_D	ES2030261	0.10	<0.01	*0.10*	<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	0.10
SW002	SW02	0026_SW002_200827	27/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	<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	<0.01
SW002	SW02	0026_SW002_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	0.03	<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	0.03
SW002	SW02	0026_QC201_210210	10/02/2021	NSW_0026_PFASOMP	Interlab_D	RN1304313	0.015	<0.01	*<0.02*	0.015	<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	-
SW002	SW02	0026_SW002_210210	10/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	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	0.01
SW002	SW02	0026_SW002_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	<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	<0.01
SW002	SW02	0026_QC202_220208	8/02/2022	NSW_0026_PFASOMP	Interlab_D	288597	0.04	<0.01	*0.01*	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	0.04
SW002	SW02	0026_SW002_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	0.06	<0.01	*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
SW002	SW02	0026_SW002_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	0.03	<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	0.03
SW004B	SW03/04B	0026_SW04B_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	0.13	<0.01	*0.05*	0.08	<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	0.16
SW004B	SW03/04B	0026_SW04B_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.69	0.02	*0.38*	0.31	0.05	0.04	<0.02	-	<0.02	<0.1	0.04	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	0.93
SW004B	SW03/04B	0026_SW04B_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	0.53	0.01	*0.31*	0.22	0.03	0.02	<0.02	-	<0.02	<0.1	0.03	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	0.69
SW004B	SW03/04B	0026_SW04B_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	1.45	0.03	*0.86*	0.59	0.10	0.08	0.02	-	<0.02	<0.1	0.07	0.16	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	1.94

Table T3 - Historical Surface Water Results

											PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number																															
SW004B	SW03/04B	0026_SW004B_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	0.80	0.02	*0.36*	0.44	0.06	0.05	<0.02	-	<0.02	<0.1	0.04	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	1.11
SW004B	SW03/04B	0026_QC204_200827	27/08/2020	NSW_0026_PFASOMP	Interlab_D	250107	0.44	<0.01	*0.30*	0.14	0.02	0.02	<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	<0.02	<0.02	<0.1	<0.05	<0.02	<0.05	<0.1	<0.02	<0.5	0.51
SW004B	SW03/04B	0026_SW04B_200827	27/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	0.61	<0.01	*0.46*	0.15	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	0.67
SW004B	SW03/04B	0026_SW004B_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	0.79	0.02	*0.35*	0.44	0.06	0.06	<0.02	-	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.09
SW004B	SW03/04B	0026_SW004B_210210	10/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	0.65	0.02	*0.41*	0.24	0.04	0.03	<0.02	-	<0.02	<0.1	0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.84
SW004B	SW03/04B	0026_QC200_210811	11/08/2021	NSW_0026_PFASOMP	Interlab_D	RN1325574	*<0.02*	<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	-
SW004B	SW03/04B	0026_SW004B_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	0.38	<0.01	*0.20*	0.18	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	0.46
SW004B	SW03/04B	0026_SW004B_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	0.33	<0.01	*0.19*	0.14	<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	0.37
SW004B	SW03/04B	0026_SW004B_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	0.25	<0.01	*0.14*	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	0.28
SW005	SW05	0026_SW05_161114	14/11/2016	NSW_0026_PFAS	Normal	524131	5.8	0.20	*3.5*	2.3	0.30	-	-	-	<0.01	0.31	0.89	6.8	0.21	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21	0.02	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW005	SW05	0026_SW05_161212	12/12/2016	NSW_0026_PFAS	Normal	529184	3.9	0.09	*2.6*	1.3	0.15	-	-	-	<0.01	0.07	0.24	0.59	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW005	SW05	0026_SW05_161217	17/12/2016	NSW_0026_PFAS	Normal	528871	0.93	0.01	*0.71*	0.22	0.06	-	-	-	<0.01	<0.05	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW005	SW05	0026_SW05_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	4.5	0.11	*3.4*	1.1	0.15	-	-	-	<0.01	0.10	0.11	0.54	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW005	SW05	0026_SW05_170329	29/03/2017	NSW_0026_PFAS	Normal	540875	6.4	0.15	*3.6*	2.8	0.25	0.2	0.09	-	<0.01	0.14	0.22	0.81	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.36	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
SW005	SW05	0026_SW05_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	4.64	0.06	*1.68*	2.96	0.31	0.32	0.08	-	<0.02	0.1	0.22	0.78	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	6.68
SW005	SW05	0026_SW05_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	2.66	0.05	*1.64*	1.02	0.15	0.12	0.03	-	<0.02	<0.1	0.12	0.29	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	3.45
SW005	SW05	0026_SW05_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	5.58	0.11	*3.86*	1.72	0.23	0.20	0.07	-	0.05	<0.1	0.26	0.56	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	7.15
SW005	SW05	0026_SW005_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	6.53	0.16	*3.65*	2.88	0.45	0.40	0.13	-	<0.02	<0.1	0.31	0.85	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	8.99
SW005	SW05	0026_SW005_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	4.04	0.10	*1.95*	2.09	0.25	0.26	0.08	-	<0.02	<0.1	0.19	0.67	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	5.69
SW005	SW05	0026_SW005_200827	27/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	4.70	0.13	*2.43*	2.27	0.29	0.34	0.10	-	<0.02	<0.1	0.16	0.64	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	6.45
SW005	SW05	0026_SW005_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	7.15	0.17	*4.23*	2.92	0.37	0.35	0.13	-	<0.02	0.1	0.18	0.81	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	9.37
SW005	SW05	0026_SW005_210209	9/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	4.49	0.14	*2.84*	1.65	0.32	0.24	0.08	-	<0.02	<0.1	0.13	0.58	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	6.10
SW005	SW05	0026_SW005_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	12.9	0.47	*6.36*	6.52	1.29	1.40	0.29	-	0.07	0.2	0.47	2.67	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	20.1
SW005	SW05	0026_SW005_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	4.42	0.13	*2.61*	1.81	0.20	0.22	0.08	-	<0.02	<0.1	0.12	0.55	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	5.79
SW005	SW05	0026_SW005_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	7.49	0.28	*4.22*	3.27	0.47	0.58	0.18	-	<0.02	0.1	0.18	1.02	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	10.5
SW006	BRD/SW06	0026_QC160_160502	2/05/2016	NSW_0026_PFAS	Field_D	498936	1.16	0.05	*0.22*	0.94	0.15	-	-	-	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_160502	2/05/2016	NSW_0026_PFAS	Normal	498936	1.22	0.05	*0.33*	0.89	0.15	-	-	-	<0.01	<0.05	0.06	0.24	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_161031	31/10/2016	NSW_0026_PFAS	Normal	522017	4.6	0.10	*2.7*	1.9	0.23	-	-	-	<0.01	0.15	0.31	1.4	0.10	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	12	0.06	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_161114	14/11/2016	NSW_0026_PFAS	Normal	524131	15.2	0.16	*13*	2.2	0.16	-	-	-	<0.01	0.05	0.10	0.45	0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	0.08	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_161212	12/12/2016	NSW_0026_PFAS	Normal	529184	5.9	0.11	*3.7*	2.2	0.23	-	-	-	<0.01	0.10	0.33	0.74	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	0.02	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_161216	16/12/2016	NSW_0026_PFAS	Normal	528870	6.2	0.10	*5.0*	1.2	0.13	-	-	-	<0.01	0.06	0.07	0.40	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.80	0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW006	BRD/SW06	0026_SW06_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	8.4	0.20	*6.4*	2.0	0.28	-	-	-	<0.01	0.14	0.13	0.92	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.19	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW006	BRD/SW06	0026_SW06_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	4.53	0.04	*1.10*	3.43	0.26	0.31	0.08	-	<0.02	<0.1	0.09	0.41	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	5.76
SW006	BRD/SW06	0026_SW06_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	3.76	0.09	*2.10*	1.66	0.30	0.24	0.08	-	<0.02	<0.1	0.16	0.47	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5.15
SW006	BRD/SW06	0026_SW06_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	8.28	0.13	*5.98*	2.30	0.28	0.27	0.10	-	0.02	<0.1	0.18	0.56	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	9.96
SW006	BRD/SW06	0026_SW006_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	6.59	0.10	*4.35*	2.24	0.23	0.26	0.13	-	<0.02	<0.1	0.16	0.44	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	8.07
SW006	BRD/SW06	0026_SW006_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	2.85	0.05	*1.53*	1.32	0.15	0.16	0.04	-	<0.02	<0.1	0.06	0.29	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	3.64
SW006	BRD/SW06	0026_SW006_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	7.57	0.16	*4.04*	3.53	0.39	0.47	0.18	-	<0.02	<0.1	0.16	0.79	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	9.82
SW006	BRD/SW06	0026_SW006_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	7.76	0.20	*4.19*	3.57	0.45	0.45	0.15	-	<0.02	0.1	0.20	1.00	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	10.4
SW006	BRD/SW06	0026_SW006_210209	9/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	15.3	0.22	*13.0*	2.30	0.31	0.27	0.22	-	0.08	<0.1	0.08	0.54	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	17.2
SW006	BRD/SW06	0026_QC101_210811	11/08/2021	NSW_0026_PFASOMP	Field_D	ES2129420	8.44	0.18	*5.24*	3.20	0.30	0.40	0.18	-	<0.02	<0.1	0.11	0.59	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	10.3
SW006	BRD/SW06	0026_SW006_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	8.35	0.21	*4.87*	3.48	0.36	0.45	0.18	-	<0.02	<0.1	0.16	0.74	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	10.6
SW006	BRD/SW06	0026_SW006_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	4.43	0.10	*2.48*	1.95	0.20	0.21	0.08	-	<0.02	<0.1	0.15	0.74	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	2.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	8.07
SW006	BRD/SW06	0026_QC201_220815	15/08/2022	NSW_0026_PFASOMP	Interlab_D	303175	16	0.42	*12*	4.3	0.59	0.58	0.30	-	<0.02	0.1	0.26	1.3	0.22	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	20
SW006	BRD/SW06	0026_SW006_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	16.9	0.43	*12.2*	4.73	0.61	0.83	0.32	-	0.03	0.2	0.24	1.33	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	21.2
SW007	SW07	0026_SW07_161214	14/12/2016	NSW_0026_PFAS	Normal	529832	4.7	0.12	*3.6*	1.1	0.13	-	-	-	<0.01	0.30	1.4	1.8	0.42	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.3	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-

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Table T3 - Historical Surface Water Results

Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number	Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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
											PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
SW007	SW07	0026_SW07_161216	16/12/2016	NSW_0026_PFAS	Normal	528870	1.02	0.02	*0.59*	0.43	0.03	-	-	-	<0.01	<0.05	0.03	0.09	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW007	SW07	0026_SW07_170208	8/02/2017	NSW_0026_PFAS	Normal	534013	3.37	0.06	*2.7*	0.67	0.08	-	-	-	<0.01	<0.05	0.05	0.26	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW007	SW07	0026_SW007_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.72	0.02	*0.36*	0.36	0.07	0.05	<0.02	-	<0.02	<0.1	0.04	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	0.99
SW007	SW07	0026_SW007_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	1.73	0.04	*1.11*	0.62	0.11	0.08	0.02	-	<0.02	<0.1	0.17	0.26	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.54
SW007	SW07	0026_SW007_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	3.47	0.04	*1.50*	1.97	0.18	0.24	0.08	-	<0.02	<0.1	0.04	0.22	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	4.29
SW007	SW07	0026_SW007_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	0.76	0.01	*0.39*	0.37	0.03	0.03	<0.02	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.88
SW007	SW07	0026_SW007_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	2.28	0.03	*0.94*	1.34	0.14	0.16	0.05	-	<0.02	<0.1	0.02	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	2.87
SW007	SW07	0026_QC100_201102	2/11/2020	NSW_0026_PFASOMP	Field_D	ES2038690	1.42	0.02	*0.62*	0.80	0.07	0.08	0.02	-	<0.02	<0.1	<0.02	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	1.70
SW007	SW07	0026_SW007_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	1.57	0.02	*0.73*	0.84	0.08	0.08	0.03	-	<0.02	<0.1	0.02	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	1.90
SW007	SW07	0026_SW007_210211	11/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	0.65	0.01	*0.47*	0.18	0.03	0.02	<0.02	-	<0.02	<0.1	0.06	0.10	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.90
SW007	SW07	0026_SW007_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	1.18	0.02	*0.25*	0.93	0.13	0.13	0.02	-	<0.02	<0.1	0.05	0.18	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	1.74
SW007	SW07	0026_SW007_220207	7/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	0.52	0.01	*0.28*	0.24	0.04	0.03	<0.02	-	<0.02	<0.1	0.10	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	0.84
SW007	SW07	0026_QC101_220815	15/08/2022	NSW_0026_PFASOMP	Field_D	ES2229041	1.60	0.05	*0.97*	0.63	0.13	0.12	0.03	-	<0.02	<0.1	0.08	0.19	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	2.24
SW007	SW07	0026_SW007_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	1.90	0.05	*1.20*	0.70	0.12	0.12	0.04	-	<0.02	<0.1	0.07	0.19	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	2.53
SW008	SW5/SW08	0026_SW08_160506	6/05/2016	NSW_0026_PFAS	Normal	499653	1.03	0.04	*0.42*	0.61	0.06	-	-	-	<0.01	<0.05	0.04	0.16	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW008	SW5/SW08	0026_SW08_161116	16/11/2016	NSW_0026_PFAS	Normal	524131	2.68	0.04	*2.0*	0.68	0.07	-	-	-	<0.01	<0.05	0.03	0.22	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW008	SW5/SW08	0026_SW08_161214	14/12/2016	NSW_0026_PFAS	Normal	529176	4.3	0.06	*2.8*	1.5	0.16	-	-	-	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW008	SW5/SW08	0026_SW08_161217	17/12/2016	NSW_0026_PFAS	Normal	528871	2.56	0.03	*2.0*	0.56	0.05	-	-	-	<0.01	<0.05	0.02	0.14	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW008	SW5/SW08	0026_SW08_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	2.12	0.04	*1.6*	0.52	0.05	-	-	-	<0.01	<0.05	0.02	0.15	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW008	SW5/SW08	0026_SW08_191210	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	5.30	0.10	*0.77*	4.53	0.35	0.27	0.07	-	<0.02	<0.1	0.22	1.55	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	7.93
SW008	SW5/SW08	0026_SW08_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	1.87	0.02	*1.11*	0.76	0.08	0.06	0.03	-	<0.02	<0.1	0.03	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.23
SW008	SW5/SW08	0026_SW08_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	1.84	0.04	*0.92*	0.92	0.10	0.09	0.02	-	<0.02	<0.1	0.04	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.39
SW008	SW5/SW08	0026_SW008_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	3.64	0.07	*1.90*	1.74	0.14	0.18	0.06	-	<0.02	<0.1	0.08	0.44	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	4.66
SW008	SW5/SW08	0026_SW008_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	1.17	0.02	*0.82*	0.35	0.02	0.03	<0.02	-	<0.02	<0.1	<0.02	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	1.33
SW008	SW5/SW08	0026_SW008_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	1.70	0.03	*0.80*	0.90	0.10	0.12	0.03	-	<0.02	<0.1	0.03	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.23
SW008	SW5/SW08	0026_SW008_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	1.78	0.03	*1.06*	0.72	0.07	0.07	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
SW008	SW5/SW08	0026_SW008_210208	8/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	3.37	0.05	*2.49*	0.88	0.11	0.09	0.04	-	<0.02	<0.1	0.03	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	3.94
SW008	SW5/SW08	0026_SW008_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	1.21	0.04	*0.51*	0.70	0.13	0.13	<0.02	-	<0.02	<0.1	0.05	0.24	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.92
SW008	SW5/SW08	0026_SW008_220210	10/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	4.26	0.10	*2.21*	2.05	0.19	0.24	0.07	-	<0.02	<0.1	0.09	0.55	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5.55
SW008	SW5/SW08	0026_SW008_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	3.17	0.11	*1.28*	1.89	0.24	0.31	0.06	-	<0.02	<0.1	0.08	0.49	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	4.52
SW009	SW09	0026_SW09_161115	15/11/2016	NSW_0026_PFAS	Normal	524131	4.75	0.06	*3.8*	0.95	0.09	-	-	-	<0.01	<0.05	0.04	0.29	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW009	SW09	0026_SW09_161116	16/11/2016	NSW_0026_PFAS	Normal	524131	4.7	0.07	*3.7*	1.0	0.10	-	-	-	<0.01	<0.05	0.04	0.29	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW009	SW09	0026_SW09_161212	12/12/2016	NSW_0026_PFAS	Normal	529895	3.93	0.05	*3.2*	0.73	0.06	-	-	-	<0.01	<0.05	0.03	0.17	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW009	SW09	0026_SW09_161216	16/12/2016	NSW_0026_PFAS	Normal	529194	30.3	0.52	*25*	5.3	0.84	-	-	-	<0.01	0.27	0.25	2.0	0.16	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW009	SW09	0026_SW09_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	28.1	0.51	*23*	5.1	0.63	-	-	-	<0.01	0.29	0.23	2.1	0.12	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW009	SW09	0026_SW09_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	2.34	0.03	*1.34*	1.00	0.15	0.07	0.04	-	<0.02	<0.1	0.03	0.24	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<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
SW009	SW09	0026_SW09_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	34.4	0.35	*25.4*	8.95	0.42	0.57	0.36	-	0.04	0.1	0.31	1.39	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	38.0
SW009	SW09	0026_SW09_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	24.0	0.30	*16.9*	7.07	0.41	0.51	0.29	-	<0.02	<0.1	0.30	1.28	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<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
SW009	SW09	0026_SW009_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	9.37	0.42	*7.04*	2.33	0.25	0.18	0.14	-	<0.02	<0.1	0.12	0.54	0.09	0.05	0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	11.2
SW009	SW09	0026_SW009_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	3.89	0.07	*2.56*	1.33	0.12	0.11	0.07	-	<0.02	<0.1	0.07	0.41	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.32	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5.12
SW009	SW09	0026_SW009_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	23.4	0.28	*15.8*	7.60	0.42	0.66	0.35	-	<0.02	0.1	0.26	1.31	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	26.9
SW009	SW09	0026_SW009_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	17.3	0.19	*12.7*	4.57	0.33	0.29	0.19	-	0.02	<0.1	0.18	0.87	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	19.4
SW009	SW09	0026_SW009_210208	8/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	8.74	0.16	*6.66*	2.08	0.27	0.26	0.12	-	<0.02	<0.1	0.13	0.73	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	10.5
SW009	SW09	0026_QC100_210811	11/08/2021	NSW_0026_PFASOMP	Field_D	ES2129420	3.48	0.07	*1.92*	1.56	0.17	0.16	0.07	-	<0.02	<0.1	0.07	0.35	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	4.42
SW009	SW09	0026_SW009_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	3.64	0.07	*2.03*	1.61	0.17	0.16	0.06	-	<0.02	<0.1	0.08	0.35	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	4.57
SW009	SW09	0026_SW009_220209	9/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	16.6	0.19	*11.8*	4.78	0.32	0.41	0.22	-	0.03	0.1	0.23	1.23	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	1.11	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	20.5

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Table T3 - Historical Surface Water Results

Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number	Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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
											PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
SW009	SW09	0026_SW009_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	12.4	0.21	*8.44*	3.93	0.31	0.45	0.20	-	<0.02	0.1	0.14	0.76	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	14.6
SW012	SW6/SW12	0026_SW12_160506	6/05/2016	NSW_0026_PFAS	Normal	499653	1.41	0.05	*0.43*	0.98	0.19	-	-	-	<0.01	<0.05	0.05	0.23	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW012	SW6/SW12	0026_SW12_161116	16/11/2016	NSW_0026_PFAS	Normal	524131	4.4	0.09	*2.6*	1.8	0.27	-	-	-	<0.01	0.06	0.07	0.47	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW012	SW6/SW12	0026_QC171_161214	14/12/2016	NSW_0026_PFAS	Field_D	529187	4.9	0.10	*2.9*	2.0	0.28	-	-	-	<0.01	0.06	0.05	0.44	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW012	SW6/SW12	0026_SW12_161214	14/12/2016	NSW_0026_PFAS	Normal	529176	4.2	0.08	*2.2*	2.0	0.27	-	-	-	<0.01	<0.05	0.04	0.35	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW012	SW6/SW12	0026_SW12_161217	17/12/2016	NSW_0026_PFAS	Normal	528871	4.2	0.09	*2.3*	1.9	0.27	-	-	-	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW012	SW6/SW12	0026_SW12_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	5.6	0.09	*4.3*	1.3	0.19	-	-	-	<0.01	0.06	0.06	0.34	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW012	SW6/SW12	0026_QC100_191210	10/12/2019	NSW_0026_PFASOMP	Field_D	ES1941149	1.12	0.01	*0.83*	0.29	<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	1.18
SW012	SW6/SW12	0026_SW12_191210	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	1.14	0.01	*0.84*	0.30	<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	1.20
SW012	SW6/SW12	0026_QC100_200211	11/02/2020	NSW_0026_PFASOMP	Field_D	ES2004866	0.43	<0.01	*0.20*	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	0.47
SW012	SW6/SW12	0026_SW12_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.34	<0.01	*0.13*	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	0.36
SW012	SW6/SW12	0026_SW12_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	0.30	<0.01	*0.08*	0.22	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	0.36
SW012	SW6/SW12	0026_SW012_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	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	0.02
SW012	SW6/SW12	0026_SW012_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	0.29	<0.01	*0.10*	0.19	0.02	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	0.34
SW012	SW6/SW12	0026_SW012_210208	8/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	0.03	<0.01	*0.03*	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03
SW012	SW6/SW12	0026_SW012_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	0.05	<0.01	*0.03*	0.02	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05
SW012	SW6/SW12	0026_SW012_220210	10/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	2.61	0.06	*1.18*	1.43	0.18	0.18	0.05	-	<0.02	<0.1	0.06	0.26	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	3.44
SW012	SW6/SW12	0026_SW012_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	6.40	0.13	*3.25*	3.15	0.35	0.42	0.11	-	<0.02	<0.1	0.10	0.54	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	8.13
SW013	SW13	0026_SW13_161114	14/11/2016	NSW_0026_PFAS	Normal	524060	4.4	0.07	*2.7*	1.7	0.27	-	-	-	<0.01	0.06	0.06	0.42	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW013	SW13	0026_SW13_161213	13/12/2016	NSW_0026_PFAS	Normal	529832	*<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	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW013	SW13	0026_SW13_161216	16/12/2016	NSW_0026_PFAS	Normal	528876	3.3	0.05	*2.3*	1.0	0.12	-	-	-	<0.01	<0.05	0.04	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW013	SW13	0026_SW13_170208	8/02/2017	NSW_0026_PFAS	Normal	534013	0.93	0.02	*0.64*	0.29	0.03	-	-	-	<0.01	<0.05	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW013	SW13	0026_SW13_170328	28/03/2017	NSW_0026_PFAS	Normal	540887	3.7	0.06	*2.2*	1.5	0.12	0.11	0.05	-	<0.01	<0.05	0.07	0.27	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	-
SW013	SW13	0026_QC200_191211	12/11/2019	NSW_0026_PFASOMP	Interlab_D	RN1258047	2.63	0.064	*0.83*	1.8	0.27	0.22	0.034	<0.01	<0.01	0.086	0.13	0.46	0.067	<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	-
SW013	SW13	0026_SW13_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	3.62	0.06	*0.78*	2.84	0.36	0.30	0.05	-	<0.02	<0.1	0.12	0.76	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	5.34
SW013	SW13	0026_QC200_200211	11/02/2020	NSW_0026_PFASOMP	Interlab_D	RN1264383	1.18	0.019	*0.61*	0.57	0.064	0.059	0.016	<0.01	<0.01	<0.05	0.031	0.10	0.014	<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	-
SW013	SW13	0026_SW13_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	1.53	0.03	*0.82*	0.71	0.08	0.07	0.02	-	<0.02	<0.1	0.03	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.89
SW013	SW13	0026_QC101_200226	26/02/2020	NSW_0026_PFASOMP	Field_D	ES2007233	3.10	0.08	*1.55*	1.55	0.16	0.15	0.05	-	<0.02	<0.1	0.11	0.38	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	4.07
SW013	SW13	0026_SW13_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	2.95	0.08	*1.41*	1.54	0.17	0.15	0.05	-	<0.02	<0.1	0.11	0.39	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.95
SW013	SW13	0026_QC100_200520	20/05/2020	NSW_0026_PFASOMP	Field_D	ES2017448	3.21	0.08	*1.47*	1.74	0.22	0.23	0.07	-	<0.02	<0.1	0.10	0.35	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	4.32
SW013	SW13	0026_SW013_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	3.41	0.07	*1.57*	1.84	0.24	0.23	0.08	-	<0.02	<0.1	0.10	0.35	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	4.54
SW013	SW13	0026_QC100_200714	14/07/2020	NSW_0026_PFASOMP	Field_D	ES2024190	3.14	0.06	*1.12*	2.02	0.23	0.25	0.06	-	<0.02	<0.1	0.10	0.50	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	4.41
SW013	SW13	0026_SW013_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	3.41	0.07	*1.18*	2.23	0.23	0.26	0.06	-	<0.02	<0.1	0.10	0.51	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	4.71
SW013	SW13	0026_QC103_200826	26/08/2020	NSW_0026_PFASOMP	Field_D	ES2030272-AA	1.44	0.03	*0.62*	0.82	0.10	0.11	0.03	-	<0.02	<0.1	0.03	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.92
SW013	SW13	0026_SW013_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	1.54	0.03	*0.78*	0.76	0.10	0.10	0.03	-	<0.02	<0.1	0.03	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	1.99
SW013	SW13	0026_QC200_201102	2/11/2020	NSW_0026_PFASOMP	Interlab_D	RN1293196	1.14	0.021	*0.53*	0.61	0.071	0.061	0.015	<0.01	<0.01	<0.05	0.027	0.1	0.015	<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	-
SW013	SW13	0026_SW013_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	1.61	0.03	*0.84*	0.77	0.09	0.08	0.03	-	<0.02	<0.1	0.03	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	2.02
SW013	SW13	0026_SW013_210208	8/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	3.55	0.08	*2.25*	1.30	0.25	0.18	0.06	-	<0.02	<0.1	0.07	0.35	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	4.61
SW013	SW13	0026_SW013_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	3.66	0.08	*1.22*	2.44	0.30	0.31	0.07	-	<0.02	<0.1	0.09	0.44	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	5.02
SW013	SW13	0026_QC102_220208	8/02/2022	NSW_0026_PFASOMP	Field_D	ES2204623	2.59	0.06	*1.15*	1.44	0.17	0.17	0.05	-	<0.02	<0.1	0.06	0.31	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	3.45
SW013	SW13	0026_SW013_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	3.18	0.07	*1.64*	1.54	0.18	0.18	0.06	-	<0.02	<0.1	0.07	0.32	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	4.10
SW013	SW13	0026_SW013_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	2.19	0.06	*1.03*	1.16	0.19	0.21	0.04	-	<0.02	<0.1	0.05	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	3.05
SW014	SW14	0026_SW14_161114	14/11/2016	NSW_0026_PFAS	Normal	524131	*<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	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW014	SW14	0026_SW14_161213	13/12/2016	NSW_0026_PFAS	Normal	529832	*<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	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW014	SW14	0026_SW14_161216	16/12/2016	NSW_0026_PFAS	Normal	528870	4.9	0.08	*3.1*	1.8	0.22	-	-	-	<0.01	0.06	0.05	0.41	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW014	SW14	0026_SW14_170208	8/02/2017	NSW_0026_PFAS	Normal	534013	0.78	0.02	*0.57*	0.21	0.02	-	-	-	<0.01	<0.05	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-

AECOM

Table T3 - Historical Surface Water Results

											PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number																															
SW014	SW14	0026_SW14_170328	28/03/2017	NSW_0026_PFAS	Normal	540887	0.46	0.01	*0.25*	0.21	0.02	0.02	<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	-
SW014	SW14	0026_SW14_191211	10/12/2019	NSW_0026_PFASOMP	Normal	ES1941149	2.80	0.04	*0.78*	2.02	0.24	0.21	0.05	-	<0.02	<0.1	0.07	0.43	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	3.88
SW014	SW14	0026_SW14_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	<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	<0.01
SW014	SW14	0026_SW14_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	<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	<0.01
SW014	SW14	0026_SW014_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	<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	<0.01
SW014	SW14	0026_QC200_140720	14/07/2020	NSW_0026_PFASOMP	Interlab_D	RN1283286	*<0.02*	<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	-
SW014	SW14	0026_SW014_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	<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	<0.01
SW014	SW14	0026_QC203_200826	26/08/2020	NSW_0026_PFASOMP	Interlab_D	250107	0.06	<0.01	*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	0.06
SW014	SW14	0026_SW014_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	0.07	<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	0.07
SW014	SW14	0026_SW014_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	<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	<0.01
SW014	SW14	0026_SW014_210208	8/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	<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	<0.01
SW014	SW14	0026_QC201_210811	11/08/2021	NSW_0026_PFASOMP	Interlab_D	RN1325574	0.28	<0.01	*0.14*	0.14	0.019	0.016	<0.01	<0.01	<0.01	<0.05	<0.02	0.028	<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	-
SW014	SW14	0026_SW014_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	<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	<0.01
SW014	SW14	0026_SW014_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	<0.01	<0.01	*<0.01*	<0.01	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01
SW014	SW14	0026_SW014_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	0.01	<0.01	*0.01*	<0.01	<0.02	<0.02	<0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01
SW018	SW18	0026_SW18_161116	16/11/2016	NSW_0026_PFAS	Normal	524131	14.7	0.28	*8.6*	6.1	0.97	-	-	-	<0.01	0.12	0.18	1.3	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW018	SW18	0026_QC173_161216	16/12/2016	NSW_0026_PFAS	Field_D	528870	3.7	0.10	*2.5*	1.2	0.16	-	-	-	<0.01	0.06	0.06	0.43	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.89	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW018	SW18	0026_SW18_161216	16/12/2016	NSW_0026_PFAS	Normal	528870	3.4	0.10	*2.3*	1.1	0.14	-	-	-	<0.01	0.07	0.06	0.42	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.90	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW018	SW18	0026_QC177_170208	8/02/2017	NSW_0026_PFAS	Field_D	534013	4.67	0.09	*3.7*	0.97	0.12	-	-	-	<0.01	0.05	0.05	0.32	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW018	SW18	0026_SW18_170208	8/02/2017	NSW_0026_PFAS	Normal	534013	4.63	0.09	*3.7*	0.93	0.11	-	-	-	<0.01	<0.05	0.04	0.32	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW018	SW18	0026_SW18_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	4.00	0.09	*2.28*	1.72	0.29	0.23	0.08	-	<0.02	<0.1	0.14	0.48	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	5.37
SW018	SW18	0026_QC201_200226	26/02/2020	NSW_0026_PFASOMP	Interlab_D	RN1266417	3.5	0.074	*1.8*	1.7	0.23	0.19	0.052	<0.01	<0.01	0.092	0.12	0.41	0.053	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	0.015	<0.01	<0.01	<0.01	<0.02	<0.01	<0.05	<0.02	<0.01	<0.05	-
SW018	SW18	0026_SW18_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	3.72	0.11	*2.18*	1.54	0.26	0.21	0.07	-	<0.02	<0.1	0.14	0.46	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	5.06
SW018	SW18	0026_SW018_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	15.4	0.50	*7.16*	8.29	1.66	1.68	0.40	-	<0.02	0.4	0.69	2.99	0.46	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	24.3
SW018	SW18	0026_SW018_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	1.27	0.02	*0.71*	0.56	0.05	0.06	0.02	-	<0.02	<0.1	0.04	0.14	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	1.63
SW018	SW18	0026_SW018_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	2.96	0.05	*0.80*	2.16	0.23	0.31	0.05	-	<0.02	<0.1	0.08	0.35	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	4.10
SW018	SW18	0026_SW018_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	10.2	0.29	*5.02*	5.19	0.71	0.71	0.19	-	<0.02	0.2	0.30	1.59	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	14.4
SW018	SW18	0026_SW018_210211	11/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	13.0	0.31	*8.25*	4.72	0.63	0.63	0.27	-	0.02	0.1	0.21	1.14	0.26	<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	16.5
SW018	SW18	0026_SW018_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	2.67	0.06	*0.52*	2.15	0.32	0.37	0.04	-	<0.02	<0.1	0.12	0.51	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	4.23
SW018	SW18	0026_SW018_220207	7/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	7.09	0.19	*3.82*	3.27	0.44	0.46	0.13	-	<0.02	0.1	0.18	0.85	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	9.53
SW018	SW18	0026_QC100_220815	15/08/2022	NSW_0026_PFASOMP	Field_D	ES2229041	6.57	0.16	*3.09*	3.48	0.25	0.39	0.14	-	<0.02	<0.1	0.06	0.35	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	7.99
SW018	SW18	0026_SW018_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	6.41	0.16	*3.18*	3.23	0.26	0.37	0.15	-	<0.02	<0.1	0.06	0.35	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	7.84
SW020	SW20	0026_QC166_161212	12/12/2016	NSW_0026_PFAS	Field_D	529184	3.5	0.04	*1.6*	1.9	0.15	-	-	-	<0.01	<0.05	0.03	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW020	SW20	0026_QC166_161212	12/12/2016	NSW_0026_PFAS	Field_D	529184	3.5	0.05	*1.5*	2.0	0.18	-	-	-	<0.01	<0.05	0.03	0.23	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW020	SW20	0026_SW20_161212	12/12/2016	NSW_0026_PFAS	Normal	529184	0.68	<0.01	*0.48*	0.20	0.02	-	-	-	<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	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW020	SW20	0026_SW20_161216	16/12/2016	NSW_0026_PFAS	Normal	529194	3.1	0.05	*1.0*	2.1	0.16	-	-	-	<0.01	<0.05	0.03	0.19	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	-	-	<0.05	-	-	-
SW020	SW20	0026_SW20_170209	9/02/2017	NSW_0026_PFAS	Normal	534013	1.59	0.03	*1.2*	0.39	0.03	-	-	-	<0.01	<0.05	0.02	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	-	<0.05	-	-	<0.05	-	-
SW020	SW20	0026_SW20_200211	11/02/2020	NSW_0026_PFASOMP	Normal	ES2004866	0.74	0.01	*0.35*	0.39	0.04	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	0.88
SW020	SW20	0026_SW20_200226	26/02/2020	NSW_0026_PFASOMP	Normal	ES2007233	2.05	0.03	*0.89*	1.16	0.12	0.11	0.03	-	<0.02	<0.1	0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.49
SW020	SW20	0026_QC200_200520	20/05/2020	NSW_0026_PFASOMP	Interlab_D	RN1275373	1.92	0.064	*0.82*	1.1	0.071	0.075	0.024	<0.01	<0.01	<0.05	<0.02	0.10	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	-
SW020	SW20	0026_SW020_200520	20/05/2020	NSW_0026_PFASOMP	Normal	ES2017448	2.87	0.11	*1.47*	1.40	0.11	0.14	0.06	-	<0.02	<0.1	0.03	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	3.50
SW020	SW20	0026_SW020_200714	14/07/2020	NSW_0026_PFASOMP	Normal	ES2024190	0.79	0.01	*0.48*	0.31	<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	0.87
SW020	SW20	0026_SW020_200826	26/08/2020	NSW_0026_PFASOMP	Normal	ES2030267	2.02	0.03	*0.78*	1.24	0.11	0.14	0.04	-	<0.02	<0.1	<0.02	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.48
SW020	SW20	0026_SW020_201102	2/11/2020	NSW_0026_PFASOMP	Normal	ES2038690	1.46	0.02	*0.75*	0.71	0.07	0.06	0.02	-	<0.02	<0.1	<0.02	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	1.72
SW020	SW20	0026_SW020_210209	9/02/2021	NSW_0026_PFASOMP	Normal	ES2105017	2.28	0.03	*1.13*	1.15	0.14	0.13	0.04	-	<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	2.77
SW020	SW20	0026_SW020_210811	11/08/2021	NSW_0026_PFASOMP	Normal	ES2129420	3.29	0.05	*1.34*	1.95	0.15	0.19	0.07	-	<0.02	<0.1	0.04	0.23	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	4.05

AECOM

Table T3 - Historical Surface Water Results

Location Code	Location Alt.	Field ID	Date	Project ID	Sample Type	Lab Report Number					PFAS - Perfluoroalkyl Sulfonic					PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer				PFAS - Perfluoroalkyl Sulfonamides							
							Sum of PFHxS and PFOS	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorononanesulfonic acid (PFNS)	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	0.02	0.01	0.05	0.02	0.01	0.05	0.01
PFAS NEMP 2020 Freshwater 99%								*19*	*0.00023*																												
PFAS NEMP 2020 Recreational Water							2	10																													
SW020	SW20	0026_SW020_220208	8/02/2022	NSW_0026_PFASOMP	Normal	ES2204623	2.35	0.04	*0.99*	1.36	0.12	0.13	0.04	-	<0.02	<0.1	0.03	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.93
SW020	SW20	0026_QC200_220815	15/08/2022	NSW_0026_PFASOMP	Interlab_D	303175	2.0	0.03	*0.77*	1.2	0.13	0.13	0.04	-	<0.02	<0.02	0.03	0.17	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	2.5
SW020	SW20	0026_SW020_220815	15/08/2022	NSW_0026_PFASOMP	Normal	ES2229041	2.13	0.04	*0.90*	1.23	0.13	0.18	0.05	-	<0.02	<0.1	0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2.75

Notes:
LOR: Limit of Reporting
µg/L - micrograms per litre
Interlab_D - Interlaboratory duplicate
Field_D - Intralaboratory duplicate

Appendix C

Calibration Certificates

Appendix C Calibration Certificates

WAM SCIENTIFIC
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	William Pak
Instrument	YSI Professional Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	20G100643
Client Name	Bridget Mansfield (AECOM Australia Pty Ltd)
Project Number	60612562/4.1
Comments	-

Instrument Check

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

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	13.4	13.2	13.4	°C
pH	pH 4.00	386466	4.01	4.06	4.01	pH
pH	pH 7.00	387329	7.00	6.91	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2837	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	247.1	247.0	247.1	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-1.1	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	102.9	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	11/08/2022
Calibration Due	11/02/2023

Appendix D

Analytical Data Validation

Appendix D Analytical Data Validation

DATA VALIDATION REPORT

Project number:	60612562	Validation by:	[redacted]	Date:	24/08/2022
Client:	Department of Defence	Data verified by:		Date:	31/08/2021
Site:	HMAS Albatross				
Matrix type:	Surface Water	Project Manager:			
Primary samples:	13 surface water samples				
Laboratory:	ALS, Envirolab				
Lab reference:	ES2229041, 303175				

Key Issues: No issues were identified that have the potential to impact upon the reliability of the results. 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.

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 Bridget Mansfield and Andrew Spoor, suitably qualified and experienced AECOM environmental scientists, on 15 August 2022.
Sampling Methodology	The majority of surface water samples were collected by placing the laboratory supplied sample bottles immediately below the water surface, to limit the infiltration of sediments into samples, with the cap applied once the bottle was full. Due to access and safety considerations at locations SW001, SW005, SW009 and SW013, these samples were collected using dedicated, disposable bailers, before being decanted into laboratory supplied bottles, filled to the top and caps immediately applied. A new pair of nitrile gloves were used at each sampling location.
Chain of Custody (COC)	All samples were reported as per the Chain of Custody documents (COC).
Rinsate Blank	Rinsate blanks are collected to indicate that equipment, used across sampling locations, are appropriately decontaminated. As no sampling equipment was required to be re-used between sampling locations during this event, no rinsate blanks were collected.
Frequency of field QC	Intra-laboratory duplicates and inter-laboratory duplicates were collected at a frequency of one in ten primary samples. In total, two intra-laboratory duplicates (0026_QC100_220815, 0026_QC101_220815) and two inter-laboratory duplicates (0026_QC200_220815, 0026_QC201_220815) were collected, meeting the frequency requirements set out by the SAQP (AECOM, 2022).
Handling and preservation	The samples were placed in a chilled esky between sampling and analysis. Samples were received preserved and chilled at the primary and secondary laboratories with recorded temperatures of 4°C, which was within the recommended temperature range (4 ± 2°C).
Calibration of equipment	Measurement of surface water geochemical parameters were undertaken using the YSI Professional Plus water quality meter, which was calibrated by the supplier prior to use, in accordance with manufacturer's instructions. The calibration and service certificate is 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 primary water samples were analysed for the PFAS extended suite. All sample requests of analysis are reported on the Chain of Custody (COC).
Holding time compliance	All samples were extracted and analysed within the recommended holding times.
Laboratory	The primary laboratory for the project was ALS Environmental Pty Ltd (Sydney) a National Association of Testing Authorities (NATA) accredited laboratory (Accreditation No. 825). The secondary laboratory was Envirolab Services Pty Ltd (Envirolab, Sydney, NATA accreditation number 2901).
Frequency of laboratory QC	The primary laboratory ALS reported a sufficient frequency of quality control samples.
Method Blank	All method blank concentrations were reported <LOR for the analytes tested from the primary laboratory, ALS. This is presented in the laboratory Quality Control Report.
Laboratory duplicate RPDs	The reported laboratory duplicates Relative Percentage Differences (RPD) were within laboratories control limits. The laboratory duplicate RPDs are presented in the laboratory Quality Control Report.
Laboratory control spike recovery	The reported laboratory Control Spikes (LCS) recoveries were within the laboratories control limits. This is presented in the laboratory Quality Control Report.
Matrix spike recovery	MS recoveries met the DQI, except for PFHxS and PFOS in sample 0026_SW012_220815 in ES2229041, where the MS recovery was not determined as the background level greater than or equal to 4x spike level. The non-determinations do not reflect method bias and do not affect data interpretation, as the accuracy of the data can be assessed as acceptable based on method blanks, lab duplicates, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits).
Surrogate spike recovery	The reported surrogate spike recoveries were within laboratory control limits. This is presented in the laboratory Quality Control Report.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted. The concentration of PFOS+PFHxS in SW006, SW008 and SW012, was noted to be a new maximum for these locations. The concentration of PFOA in SW008 was noted to be a new maximum for this location.
Data transcription	A check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted human health screening levels and were consistent with Defence (2018) Standard PFAS Analytical Suite requirements. It is noted that the LORs for PFAS compounds were greater than the adopted 99% freshwater ecosystem protection values adopted as ecological screening criteria.
Field duplicate and Triplicate RPDs	The RPDs for for surface water sample field duplicates were calculated to be within the acceptable range, as set out by the DQIs.

The RPDs for Field triplicates (split samples) were calculated to be within the acceptable range, as set out by the DQI, with the exception of the following:

- 0026_SW020_220815/ 0026_QC200_220815
  - PFPeS (32%)
  - PFPeA (40%)
- 0026_SW020_220815/ 0026_QC200_220815
  - PFPeS (35%)
  - PFDS (40%)
  - PFBA (67%)
  - PFNA (67%)

The RPD exceedances were marginally greater than the acceptable limit of 30% and majority attributed to the low concentrations reported (i.e less than 10X the Laboratory LOR). Additionally, the reported concentrations of PFAS in the samples analysed were within historical ranges. Therefore, AECOM considers that the marginally elevated RPDs are not significant.

These RPDS are presented in Table D1.

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.

Attachments:

Table D1: Relative Percentage Difference

Table D1 - Relative Difference Percentage

				PFAS - Perfluoroalkyl Sulfonic Acids						PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic				PFAS - Perfluoroalkyl Sulfonamides							PFAS		
				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	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	0.02	0.02	0.02	0.01	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	0.01	0.01	0.01
Lab Report Number	Field ID	Sample Type	Date																															
ES2229041	0026_SW018_220815	Primary	15/08/2022	0.26	0.37	3.23	0.15	3.18	<0.02	<0.1	0.06	0.35	0.08	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	6.41	7.32	7.84
ES2229041	0026_QC100_220815	Field_D	15/08/2022	0.25	0.39	3.48	0.14	3.09	<0.02	<0.1	0.06	0.35	0.07	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	6.57	7.46	7.99
RPD				4	5	7	7	3	nc	nc	0	0	13	0	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	2	2	2
ES2229041	0026_SW007_220815	Primary	15/08/2022	0.12	0.12	0.70	0.04	1.20	<0.02	<0.1	0.07	0.19	0.04	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.90	2.37	2.53
ES2229041	0026_QC101_220815	Field_D	15/08/2022	0.13	0.12	0.63	0.03	0.97	<0.02	<0.1	0.08	0.19	0.04	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.60	2.09	2.24
RPD				8	0	11	29	21	nc	nc	13	0	0	0	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	17	13	12
ES2229041	0026_SW020_220815	Primary	15/08/2022	0.13	0.18	1.23	0.05	0.90	<0.02	<0.1	0.02	0.18	0.02	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	2.13	2.52	2.75
303175	0026_QC200_220815	Interlab_D	15/08/2022	0.13	0.13	1.2	0.04	0.77	<0.02	<0.02	0.03	0.17	0.02	0.03	<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	2.0	-	2.5
RPD				0	32	2	22	16	nc	nc	40	6	0	29	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	6	-	10
ES2229041	0026_SW006_220815	Primary	15/08/2022	0.61	0.83	4.73	0.32	12.2	0.03	0.2	0.24	1.33	0.22	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	16.9	20.0	21.2
303175	0026_QC201_220815	Interlab_D	15/08/2022	0.59	0.58	4.3	0.30	12	<0.02	0.1	0.26	1.3	0.22	0.42	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	16	-	20
RPD				3	35	10	6	2	nc	67	8	2	0	2	67	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	5	-	6

Notes:
LOR: Limit of Reporting
µg/L - micrograms per litre
Interlab_D - Interlaboratory duplicate
Field_D - Intralaboratory duplicate
nc - non calculable as concentrations in one or both samples were below the LOR
*RPDs have only been considered where a concentration is greater than 1 times the LOR.
**High RPDs are in bold (>30%)

Appendix E

Laboratory Certificates

Appendix E Laboratory Certificates

Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2229041**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Sepan Mahamad
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mat.jenkins@aecom.com	E-mail	: Sepan.Mahamad@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: NSW_0026_PFASOMP	Page	: 1 of 4
Order number	: 60612562_3.1	Quote number	: ES2021AECOMAU0025 (SY/139/19 v4 60612562_3.1)
C-O-C number	: 41106	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0026		
Sampler	: ANDREW SPOOR, BRIDGET MANSFIELD		

Dates

Date Samples Received	: 16-Aug-2022 14:00	Issue Date	: 24-Aug-2022
Client Requested Due Date	: 23-Aug-2022	Scheduled Reporting Date	: **23-Aug-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.0'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 15 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **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)
ES2229041-001	15-Aug-2022 15:25	0026_SW001_220815	✓
ES2229041-002	15-Aug-2022 15:09	0026_SW002_220815	✓
ES2229041-003	15-Aug-2022 15:45	0026_SW004B_220815	✓
ES2229041-004	15-Aug-2022 14:02	0026_SW005_220815	✓
ES2229041-005	15-Aug-2022 11:26	0026_SW006_220815	✓
ES2229041-006	15-Aug-2022 10:20	0026_SW007_220815	✓
ES2229041-007	15-Aug-2022 13:28	0026_SW008_220815	✓
ES2229041-008	15-Aug-2022 12:02	0026_SW009_220815	✓
ES2229041-009	15-Aug-2022 12:58	0026_SW012_220815	✓
ES2229041-010	15-Aug-2022 14:50	0026_SW013_220815	✓
ES2229041-011	15-Aug-2022 14:34	0026_SW014_220815	✓
ES2229041-012	15-Aug-2022 10:08	0026_SW018_220815	✓
ES2229041-013	15-Aug-2022 11:14	0026_SW020_220815	✓
ES2229041-014	15-Aug-2022 00:00	0026_QC100_220815	✓
ES2229041-015	15-Aug-2022 00:00	0026_QC101_220815	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
ANDREW SPOOR		
- *AU Certificate of Analysis - NATA (COA)	Email	Andrew.Spoor@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Andrew.Spoor@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Andrew.Spoor@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Andrew.Spoor@aecom.com
- Chain of Custody (CoC) (COC)	Email	Andrew.Spoor@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Andrew.Spoor@aecom.com
- EDI Format - XTab (XTAB)	Email	Andrew.Spoor@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	Andrew.Spoor@aecom.com
CATHERINE HANSEN		
- *AU Certificate of Analysis - NATA (COA)	Email	catherine.hansen@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	catherine.hansen@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	catherine.hansen@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	catherine.hansen@aecom.com
- Chain of Custody (CoC) (COC)	Email	catherine.hansen@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	catherine.hansen@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	catherine.hansen@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	catherine.hansen@aecom.com
DERP ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	derp.labreports@esdat.com.au
esdat.apac esdat.apac		
- *AU Certificate of Analysis - NATA (COA)	Email	esdat.apac@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	esdat.apac@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	esdat.apac@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	esdat.apac@aecom.com
- Chain of Custody (CoC) (COC)	Email	esdat.apac@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	esdat.apac@aecom.com
- EDI Format - XTab (XTAB)	Email	esdat.apac@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	esdat.apac@aecom.com
GEOFF TREDINNICK		
- *AU Certificate of Analysis - NATA (COA)	Email	Geoff.Tredinnick@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Geoff.Tredinnick@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Geoff.Tredinnick@aecom.com
- A4 - AU Tax Invoice (INV)	Email	Geoff.Tredinnick@aecom.com
- Chain of Custody (CoC) (COC)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	Geoff.Tredinnick@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Geoff.Tredinnick@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	Geoff.Tredinnick@aecom.com
JESSICA ROY		
- *AU Certificate of Analysis - NATA (COA)	Email	jessica.roy@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jessica.roy@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jessica.roy@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jessica.roy@aecom.com
- Chain of Custody (CoC) (COC)	Email	jessica.roy@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	jessica.roy@aecom.com
- EDI Format - XTab (XTAB)	Email	jessica.roy@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	jessica.roy@aecom.com
MAT JENKINS		
- *AU Certificate of Analysis - NATA (COA)	Email	mat.jenkins@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mat.jenkins@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mat.jenkins@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mat.jenkins@aecom.com
- Chain of Custody (CoC) (COC)	Email	mat.jenkins@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	mat.jenkins@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	mat.jenkins@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	mat.jenkins@aecom.com

MAT JENKINS

- EDI Format - XTab (XTAB)	Email	mat.jenkins@aecom.com
- Electronic SRN for EQuIS (ESRN_EQUIS)	Email	mat.jenkins@aecom.com

CHAIN OF CUSTODY

ALS *COC#:* **41106** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	LC		
DATE TIME:	DATE TIME: 16/08/22 1400	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: 0026

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Bridget Mansfield

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE: 0431835223

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0902_SW001_220815		15/08/2022 03:25 PM	Water	ALS: 3 Non ALS: 0	No	X		
002	0902_SW002_220815		15/08/2022 03:09 PM	Water	ALS: 3 Non ALS: 0	No	X		
003	0902_SW004B_220815		15/08/2022 03:45 PM	Water	ALS: 3 Non ALS: 0	No	X		
004	0902_SW005_220815	Extra volume for lab qcs	15/08/2022 02:02 PM	Water	ALS: 5 Non ALS: 0	No	X		
005	0902_SW006_220815		15/08/2022 11:26 AM	Water	ALS: 3 Non ALS: 0	No	X		
006	0902_SW007_220815		15/08/2022 10:20 AM	Water	ALS: 3 Non ALS: 0	No	X		
007	0902_SW008_220815		15/08/2022 01:28 PM	Water	ALS: 3 Non ALS: 0	No	X		
008	0902_SW009_220815		15/08/2022 12:02 PM	Water	ALS: 3 Non ALS: 0	No	X		
009	0902_SW012_220815	Extra volume for lab qcs	15/08/2022 12:58 PM	Water	ALS: 5 Non ALS: 0	No	X		

Environmental Division
Sydney
Work Order Reference
ES2229041

Telephone : + 61-2-8784 8555

CHAIN OF CUSTODY

COC#: 41106 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	J Ca DATE TIME: 16/08/22 1400	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: 0026

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Bridget Mansfield

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE: 0431835223

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters - New Analysis WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0902_SW013_220815		15/08/2022 02:50 PM	Water	ALS: 5 Non ALS: 0	No	X		Extra volume for lab qcs
011	0902_SW014_220815		15/08/2022 02:34 PM	Water	ALS: 3 Non ALS: 0	No	X		
012	0902_SW018_220815		15/08/2022 10:08 AM	Water	ALS: 3 Non ALS: 0	No	X		
013	0902_SW020_220815		15/08/2022 11:14 AM	Water	ALS: 3 Non ALS: 0	No	X		
014	0902_QC100_220815		15/08/2022 10:20 AM	Water	ALS: 3 Non ALS: 0	No	X		
015	0902_QC101_220815		15/08/2022 10:21 AM	Water	ALS: 3 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **41106** *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/08/22 1400	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: NSW_0026_PFASOMP
SITE: 0026
ORDER NO: 60612562_3.1
PROJECT MANAGER: Mat Jenkins
PRIMARY SAMPLER: Bridget Mansfield

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE: 0431835223
QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU002 5

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0902_SW001_220815	HDPE (no PTFE)	20 mL	00350621013792	Grey	No	
001	0902_SW001_220815	HDPE (no PTFE)	20 mL	00350621013781	Grey	No	
001	0902_SW001_220815	HDPE (no PTFE)	20 mL	00350621013691	Grey	No	
002	0902_SW002_220815	HDPE (no PTFE)	20 mL	00350621013638	Grey	No	
002	0902_SW002_220815	HDPE (no PTFE)	20 mL	00350621013713	Grey	No	
002	0902_SW002_220815	HDPE (no PTFE)	20 mL	00350621013644	Grey	No	
003	0902_SW004B_220815	HDPE (no PTFE)	20 mL	00350621013879	Grey	No	
003	0902_SW004B_220815	HDPE (no PTFE)	20 mL	00350621013753	Grey	No	
003	0902_SW004B_220815	HDPE (no PTFE)	20 mL	00350621013723	Grey	No	
004	0902_SW005_220815	HDPE (no PTFE)	20 mL	00350621013844	Grey	No	
004	0902_SW005_220815	HDPE (no PTFE)	20 mL	00350621013791	Grey	No	
004	0902_SW005_220815	HDPE (no PTFE)	20 mL	00350621013676	Grey	No	
004	0902_SW005_220815	HDPE (no PTFE)	20 mL	00350621013667	Grey	No	
004	0902_SW005_220815	HDPE (no PTFE)	20 mL	00350621013869	Grey	No	
005	0902_SW006_220815	HDPE (no PTFE)	20 mL	00350621013736	Grey	No	
005	0902_SW006_220815	HDPE (no PTFE)	20 mL	00350621013656	Grey	No	
005	0902_SW006_220815	HDPE (no PTFE)	20 mL	00350621013866	Grey	No	
006	0902_SW007_220815	HDPE (no PTFE)	20 mL	00350621013729	Grey	No	
006	0902_SW007_220815	HDPE (no PTFE)	20 mL	00350621013614	Grey	No	
006	0902_SW007_220815	HDPE (no PTFE)	20 mL	00350621013773	Grey	No	
007	0902_SW008_220815	HDPE (no PTFE)	20 mL	00350621013669	Grey	No	
007	0902_SW008_220815	HDPE (no PTFE)	20 mL	00350621013766	Grey	No	
007	0902_SW008_220815	HDPE (no PTFE)	20 mL	00350621013662	Grey	No	
008	0902_SW009_220815	HDPE (no PTFE)	20 mL	00350621013727	Grey	No	
008	0902_SW009_220815	HDPE (no PTFE)	20 mL	00350621013735	Grey	No	
008	0902_SW009_220815	HDPE (no PTFE)	20 mL	00350621013834	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 41106 *ALS Laboratory:* ES Sydney

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 16/08/22 1400	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: NSW_0026_PFASOMP

SITE: 0026

ORDER NO: 60612562_3.1

PROJECT MANAGER: Mat Jenkins

PRIMARY SAMPLER: Bridget Mansfield

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: 0412 65 47 87 SAMPLER MOBILE: 0431835223

QUOTE NO: SY/139/19 v4 60612562_3.1 / ES2021AECOMAU0025

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:

EMAIL REPORTS TO: mat.jenkins@aecom.com, jessica.roy@aecom.com, geoff.tredinnick@aecom.com, andrew.spoor@aecom.com, derp.labreports@esdat.com.au, esdat.apac@aecom.com

EMAIL INVOICES TO: geoff.tredinnick@aecom.com

009	0902_SW012_220815	HDPE (no PTFE)	20 mL	00350621013678	Grey	No	
009	0902_SW012_220815	HDPE (no PTFE)	20 mL	00350621013841	Grey	No	
009	0902_SW012_220815	HDPE (no PTFE)	20 mL	00350621013738	Grey	No	
009	0902_SW012_220815	HDPE (no PTFE)	20 mL	00350621013732	Grey	No	
009	0902_SW012_220815	HDPE (no PTFE)	20 mL	00350621013762	Grey	No	
010	0902_SW013_220815	HDPE (no PTFE)	20 mL	00350621013682	Grey	No	
010	0902_SW013_220815	HDPE (no PTFE)	20 mL	00350621013725	Grey	No	
010	0902_SW013_220815	HDPE (no PTFE)	20 mL	00350621013679	Grey	No	
010	0902_SW013_220815	HDPE (no PTFE)	20 mL	00350621013688	Grey	No	
010	0902_SW013_220815	HDPE (no PTFE)	20 mL	00350621013707	Grey	No	
011	0902_SW014_220815	HDPE (no PTFE)	20 mL	00350621013741	Grey	No	
011	0902_SW014_220815	HDPE (no PTFE)	20 mL	00350621013730	Grey	No	
011	0902_SW014_220815	HDPE (no PTFE)	20 mL	00350621013655	Grey	No	
012	0902_SW018_220815	HDPE (no PTFE)	20 mL	00350621013886	Grey	No	
012	0902_SW018_220815	HDPE (no PTFE)	20 mL	00350621013813	Grey	No	
012	0902_SW018_220815	HDPE (no PTFE)	20 mL	00350621013728	Grey	No	
013	0902_SW020_220815	HDPE (no PTFE)	20 mL	00350621013659	Grey	No	
013	0902_SW020_220815	HDPE (no PTFE)	20 mL	00350621013855	Grey	No	
013	0902_SW020_220815	HDPE (no PTFE)	20 mL	00350621013680	Grey	No	
014	0902_QC100_220815	HDPE (no PTFE)	20 mL	00350621013767	Grey	No	
014	0902_QC100_220815	HDPE (no PTFE)	20 mL	00350621013665	Grey	No	
014	0902_QC100_220815	HDPE (no PTFE)	20 mL	00350621013620	Grey	No	
015	0902_QC101_220815	HDPE (no PTFE)	20 mL	00350621013788	Grey	No	
015	0902_QC101_220815	HDPE (no PTFE)	20 mL	00350621013865	Grey	No	
015	0902_QC101_220815	HDPE (no PTFE)	20 mL	00350621013625	Grey	No	

Total Bottle Count: ALS: 51, Non ALS: 0

ALSCompass SAMPLING Intelligence

ALS

COMPASS ID
41106.

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: 60612562 **Client:** AECOM **Project Manager:** Geoff Treddinick
Phone: ( )

ALS Compass COC Reference: **# Samples:** 15 **Sampler:** Bridget Mansfield
Phone: (0431 835 223)

Turnaround Requirements: Standard 5 day 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:**
B. Mansfield			
Date / Time: 15/8/22 16:30	**Date / Time:**	**Date / Time:**	**Date / Time:**

CERTIFICATE OF ANALYSIS

Work Order	: **ES2229041**	Page	: 1 of 9
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Sepan Mahamad
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_0026_PFASOMP	Date Samples Received	: 16-Aug-2022 14:00
Order number	: 60612562_3.1	Date Analysis Commenced	: 17-Aug-2022
C-O-C number	: 41106	Issue Date	: 24-Aug-2022 12:11
Sampler	: ANDREW SPOOR, BRIDGET MANSFIELD		
Site	: 0026		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 15		
No. of samples analysed	: 15		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (24/08/22): This report has been amended as a result of misinterpretation of sample identification numbers (IDs) for all samples. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0026_SW001_220815	0026_SW002_220815	0026_SW004B_220815	0026_SW005_220815	0026_SW006_220815
			Sampling date / time	15-Aug-2022 15:25	15-Aug-2022 15:09	15-Aug-2022 15:45	15-Aug-2022 14:02	15-Aug-2022 11:26
Compound	CAS Number	LOR	Unit	ES2229041-001	ES2229041-002	ES2229041-003	ES2229041-004	ES2229041-005
				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	**0.47**	**0.61**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	**0.58**	**0.83**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.04**	**0.02**	**0.11**	**3.27**	**4.73**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	**0.18**	**0.32**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.03**	**0.01**	**0.14**	**4.22**	**12.2**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	**0.03**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	**0.1**	**0.2**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	**0.18**	**0.24**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	**0.03**	**1.02**	**1.33**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	**0.16**	**0.22**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	**0.28**	**0.43**
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	0026_SW001_220815	0026_SW002_220815	0026_SW004B_220815	0026_SW005_220815	0026_SW006_220815
			Sampling date / time	15-Aug-2022 15:25	15-Aug-2022 15:09	15-Aug-2022 15:45	15-Aug-2022 14:02	15-Aug-2022 11:26
Compound	CAS Number	LOR	Unit	ES2229041-001	ES2229041-002	ES2229041-003	ES2229041-004	ES2229041-005
				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	**0.07**	**0.03**	**0.28**	**10.5**	**21.2**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.07**	**0.03**	**0.25**	**7.49**	**16.9**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.07**	**0.03**	**0.28**	**9.70**	**20.0**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**103**	**94.0**	**96.7**	**98.8**	**99.7**
13C8-PFOA	----	0.02	%	**88.1**	**89.4**	**90.6**	**89.3**	**91.8**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0026_SW007_220815	0026_SW008_220815	0026_SW009_220815	0026_SW012_220815	0026_SW013_220815
			Sampling date / time	15-Aug-2022 10:20	15-Aug-2022 13:28	15-Aug-2022 12:02	15-Aug-2022 12:58	15-Aug-2022 14:50
Compound	CAS Number	LOR	Unit	ES2229041-006	ES2229041-007	ES2229041-008	ES2229041-009	ES2229041-010
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	**0.12**	**0.24**	**0.31**	**0.35**	**0.19**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	**0.12**	**0.31**	**0.45**	**0.42**	**0.21**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.70**	**1.89**	**3.93**	**3.15**	**1.16**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	**0.04**	**0.06**	**0.20**	**0.11**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**1.20**	**1.28**	**8.44**	**3.25**	**1.03**
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	**0.07**	**0.08**	**0.14**	**0.10**	**0.05**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.19**	**0.49**	**0.76**	**0.54**	**0.27**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	**0.04**	**0.06**	<0.02	**0.08**	**0.04**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.05**	**0.11**	**0.21**	**0.13**	**0.06**
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	0026_SW007_220815	0026_SW008_220815	0026_SW009_220815	0026_SW012_220815	0026_SW013_220815
			Sampling date / time	15-Aug-2022 10:20	15-Aug-2022 13:28	15-Aug-2022 12:02	15-Aug-2022 12:58	15-Aug-2022 14:50
Compound	CAS Number	LOR	Unit	ES2229041-006	ES2229041-007	ES2229041-008	ES2229041-009	ES2229041-010
				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	**0.06**	<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	**2.53**	**4.52**	**14.6**	**8.13**	**3.05**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**1.90**	**3.17**	**12.4**	**6.40**	**2.19**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**2.37**	**4.15**	**14.0**	**7.60**	**2.80**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**96.0**	**92.9**	**92.5**	**99.1**	**97.4**
13C8-PFOA	----	0.02	%	**94.7**	**95.2**	**93.9**	**94.4**	**91.9**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)			Sample ID	0026_SW014_220815	0026_SW018_220815	0026_SW020_220815	0026_QC100_220815	0026_QC101_220815
			Sampling date / time	15-Aug-2022 14:34	15-Aug-2022 10:08	15-Aug-2022 11:14	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2229041-011	ES2229041-012	ES2229041-013	ES2229041-014	ES2229041-015
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	**0.26**	**0.13**	**0.25**	**0.13**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	**0.37**	**0.18**	**0.39**	**0.12**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	**3.23**	**1.23**	**3.48**	**0.63**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	**0.15**	**0.05**	**0.14**	**0.03**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.01**	**3.18**	**0.90**	**3.09**	**0.97**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	**0.06**	**0.02**	**0.06**	**0.08**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	**0.35**	**0.18**	**0.35**	**0.19**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	**0.08**	**0.02**	**0.07**	**0.04**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	**0.16**	**0.04**	**0.16**	**0.05**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
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	0026_SW014_220815	0026_SW018_220815	0026_SW020_220815	0026_QC100_220815	0026_QC101_220815
			Sampling date / time	15-Aug-2022 14:34	15-Aug-2022 10:08	15-Aug-2022 11:14	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2229041-011	ES2229041-012	ES2229041-013	ES2229041-014	ES2229041-015
				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	**0.01**	**7.84**	**2.75**	**7.99**	**2.24**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.01**	**6.41**	**2.13**	**6.57**	**1.60**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.01**	**7.32**	**2.52**	**7.46**	**2.09**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	**105**	**94.6**	**97.4**	**101**	**95.0**
13C8-PFOA	----	0.02	%	**94.6**	**88.1**	**92.2**	**88.2**	**92.8**

Surrogate Control Limits

Sub-Matrix: **SURFACE WATER**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) 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	: **ES2229041**	Page	: 1 of 5
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Telephone	: +61 2 8784 8555
Project	: NSW_0026_PFASOMP	Date Samples Received	: 16-Aug-2022
Site	: 0026	Issue Date	: 24-Aug-2022
Sampler	: ANDREW SPOOR, BRIDGET MANSFIELD	No. of samples received	: 15
Order number	: 60612562_3.1	No. of samples analysed	: 15

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229041--009	0026_SW012_220815	**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	ES2229041--009	0026_SW012_220815	**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	*Sample Date*	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)		*Date extracted*	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0026_SW001_220815, 0026_SW002_220815, 0026_SW004B_220815, 0026_SW005_220815, 0026_SW006_220815, 0026_SW007_220815, 0026_SW008_220815, 0026_SW009_220815, 0026_SW012_220815, 0026_SW013_220815, 0026_SW014_220815, 0026_SW018_220815, 0026_SW020_220815, 0026_QC100_220815, 0026_QC101_220815	**15-Aug-2022**	**22-Aug-2022**	11-Feb-2023	✓	**23-Aug-2022**	11-Feb-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0026_SW001_220815, 0026_SW002_220815, 0026_SW004B_220815, 0026_SW005_220815, 0026_SW006_220815, 0026_SW007_220815, 0026_SW008_220815, 0026_SW009_220815, 0026_SW012_220815, 0026_SW013_220815, 0026_SW014_220815, 0026_SW018_220815, 0026_SW020_220815, 0026_QC100_220815, 0026_QC101_220815	**15-Aug-2022**	**22-Aug-2022**	11-Feb-2023	✓	**23-Aug-2022**	11-Feb-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)								
0026_SW001_220815,	0026_SW002_220815,	**15-Aug-2022**	**22-Aug-2022**	11-Feb-2023	✓	**23-Aug-2022**	11-Feb-2023	✓
0026_SW004B_220815,	0026_SW005_220815,							
0026_SW006_220815,	0026_SW007_220815,							
0026_SW008_220815,	0026_SW009_220815,							
0026_SW012_220815,	0026_SW013_220815,							
0026_SW014_220815,	0026_SW018_220815,							
0026_SW020_220815,	0026_QC100_220815,							
0026_QC101_220815								
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0026_SW001_220815,	0026_SW002_220815,	**15-Aug-2022**	**22-Aug-2022**	11-Feb-2023	✓	**23-Aug-2022**	11-Feb-2023	✓
0026_SW004B_220815,	0026_SW005_220815,							
0026_SW006_220815,	0026_SW007_220815,							
0026_SW008_220815,	0026_SW009_220815,							
0026_SW012_220815,	0026_SW013_220815,							
0026_SW014_220815,	0026_SW018_220815,							
0026_SW020_220815,	0026_QC100_220815,							
0026_QC101_220815								
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0026_SW001_220815,	0026_SW002_220815,	**15-Aug-2022**	**22-Aug-2022**	11-Feb-2023	✓	**23-Aug-2022**	11-Feb-2023	✓
0026_SW004B_220815,	0026_SW005_220815,							
0026_SW006_220815,	0026_SW007_220815,							
0026_SW008_220815,	0026_SW009_220815,							
0026_SW012_220815,	0026_SW013_220815,							
0026_SW014_220815,	0026_SW018_220815,							
0026_SW020_220815,	0026_QC100_220815,							
0026_QC101_220815								

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	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
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.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2229041**	Page	: 1 of 7
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MAT JENKINS	Contact	: Sepan Mahamad
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_0026_PFASOMP	Date Samples Received	: 16-Aug-2022
Order number	: 60612562_3.1	Date Analysis Commenced	: 17-Aug-2022
C-O-C number	: 41106	Issue Date	: 24-Aug-2022
Sampler	: ANDREW SPOOR, BRIDGET MANSFIELD		
Site	: 0026		
Quote number	: SY/139/19 v4 60612562_3.1		
No. of samples received	: 15		
No. of samples analysed	: 15		

ilac-MRA NATA

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

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	*Position*	*Accreditation Category*
Franco Lentini	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: 4532751)									
ES2229041-004	0026_SW005_220815	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.27	3.62	10.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.22	4.35	3.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.47	0.50	5.1	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.58	0.57	2.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	0.19	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2229041-010	0026_SW013_220815	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.16	1.07	8.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.03	0.98	4.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.19	0.19	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.21	0.21	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.05	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4532751)									
ES2229041-004	0026_SW005_220815	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.28	0.30	5.2	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.18	0.19	7.2	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.02	1.06	4.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.16	0.15	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4532751) - continued									
ES2229041-010	0026_SW013_220815	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.27	0.26	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.03	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: 4532751)									
ES2229041-004	0026_SW005_220815	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
ES2229041-010	0026_SW013_220815	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: 4532751)									
ES2229041-004	0026_SW005_220815	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 sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4532751) - continued									
ES2229041-004	0026_SW005_220815	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
ES2229041-010	0026_SW013_220815	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: 4532751)									
ES2229041-004	0026_SW005_220815	EP231X: Sum of PFAS	----	0.01	µg/L	10.5	11.0	5.3	0% - 20%
ES2229041-010	0026_SW013_220815	EP231X: Sum of PFAS	----	0.01	µg/L	3.05	2.89	5.4	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: 4532751)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	117	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	98.0	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	121	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	114	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	131	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4532751)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	128	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	123	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	127	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	122	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	125	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4532751)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	76.0	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	128	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	124	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	112	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	112	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4532751)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	98.2	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	117	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	120	67.0	138

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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4532751) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	94.4	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: 4532751)							
ES2229041-009	0026_SW012_220815	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	112	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	122	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	133	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	136	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4532751)							
ES2229041-009	0026_SW012_220815	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	128	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.6	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	106	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	107	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	115	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	128	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	127	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	130	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	87.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	130	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	132	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4532751)							
ES2229041-009	0026_SW012_220815	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	129	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	147	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	126	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	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: 4532751) - continued							
ES2229041-009	0026_SW012_220815	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	115	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	134	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4532751)							
ES2229041-009	0026_SW012_220815	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	77.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	109	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	123	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	95.0	71.4	144

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	Mat Jenkins, Geoff Tredinnick

Sample Login Details	
Your reference	60612562_3.1, NSW_0026_PFASOMP
Envirolab Reference	303175
Date Sample Received	16/08/2022
Date Instructions Received	16/08/2022
Date Results Expected to be Reported	23/08/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

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
0026_QC200_220815	✓
0026_QC201_220815	✓

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 Mat.jenkins@aecom.com
F +61 2 8934 0001

Email reports to: Geoff.Tredinnick@aecom.com; mat.jenkins@aecom.com derp.labreports@esdat.com.au

Laboratory Details
Lab. Name: Envirolab
Lab. Address: 12 Ashley St, Chatswood NSW 2067
Contact Name:
Lab. Ref:

Tel: 9910 6200
Fax:
Preliminary Report by:
Final Report by:

Sampled By: Bridget Mansfield and Andrew Spoor **Project Name: NSW_0026_PFASOMP** **AECOM Project #: 60612562 - 3.1** **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	Matrix: water	Matrix: sed	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	PFAS in Waters Extended	HOLD	Notes
1	0026_QC200_220815	15/08/2022		x				x			X		
2	0026_QC201_220815	15/08/2022		x				x			X		

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 303175
Date Received: 16/8/22
Time Received: 1050
Received By: UM
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

Temp. received: °C

Report & Invoice: geoff.tredinnick@aecom.com

Lab Report No. Esky ID

Relinquished by:	A. Spoor	Signed:		Date:	15/8/22	Relinquished by:	Signed: Date:
Received by:		Signed:		Date:		Received by: Elisabeth ...	Signed: 16/8/22 Date: 1050

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CERTIFICATE OF ANALYSIS 303175

Client Details

Client	AECOM Australia Pty Ltd (Sydney)
Attention	Mat Jenkins, Geoff Tredinnick
Address	PO Box Q410, QVB Post Office, Sydney, NSW, 1230

Sample Details

Your Reference	**60612562_3.1, NSW_0026_PFASOMP**
Number of Samples	2 Water
Date samples received	16/08/2022
Date completed instructions received	16/08/2022

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	23/08/2022
Date of Issue	19/08/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Josh Williams, Organics and LC Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Extended			
Our Reference		303175-1	303175-2
Your Reference	UNITS	0026_QC200_22 0815	0026_QC201_22 0815
Date Sampled		15/08/2022	15/08/2022
Type of sample		Water	Water
Date prepared	-	16/08/2022	16/08/2022
Date analysed	-	16/08/2022	16/08/2022
Perfluorobutanesulfonic acid	µg/L	0.13	0.59
Perfluoropentanesulfonic acid	µg/L	0.13	0.58
Perfluorohexanesulfonic acid - PFHxS	µg/L	1.2	4.3
Perfluoroheptanesulfonic acid	µg/L	0.04	0.30
Perfluorooctanesulfonic acid PFOS	µg/L	0.77	12
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	0.1
Perfluoropentanoic acid	µg/L	0.03	0.26
Perfluorohexanoic acid	µg/L	0.17	1.3
Perfluoroheptanoic acid	µg/L	0.02	0.22
Perfluorooctanoic acid PFOA	µg/L	0.03	0.42
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*	%	96	98
Surrogate $^{13}C_2$ *PFOA*	%	108	108
Extracted ISTD $^{13}C_3$ *PFBS*	%	92	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	90

PFAS in Waters Extended			
Our Reference		303175-1	303175-2
Your Reference	UNITS	0026_QC200_220815	0026_QC201_220815
Date Sampled		15/08/2022	15/08/2022
Type of sample		Water	Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	103	96
Extracted ISTD $^{13}C_3$ *PFPeA*	%	94	90
Extracted ISTD $^{13}C_2$ *PFHxA*	%	101	101
Extracted ISTD $^{13}C_4$ *PFHpA*	%	99	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	93
Extracted ISTD $^{13}C_5$ *PFNA*	%	107	97
Extracted ISTD $^{13}C_2$ *PFDA*	%	110	105
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	113	112
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	107	102
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	81	88
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	105	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	116	108
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	140	128
Extracted ISTD $^{13}C_8$ *FOSA*	%	101	101
Extracted ISTD d_3 *N MeFOSA*	%	106	104
Extracted ISTD d_5 *N EtFOSA*	%	102	103
Extracted ISTD d_7 *N MeFOSE*	%	98	99
Extracted ISTD d_9 *N EtFOSE*	%	96	98
Extracted ISTD d_3 *N MeFOSAA*	%	110	108
Extracted ISTD d_5 *N EtFOSAA*	%	109	102
Total Positive PFHxS & PFOS	µg/L	2.0	16
Total Positive PFOA & PFOS	µg/L	0.80	13
Total Positive PFAS	µg/L	2.5	20

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 5.3 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	303175-2
Date prepared	-			16/08/2022	1	16/08/2022	16/08/2022		16/08/2022	16/08/2022
Date analysed	-			16/08/2022	1	16/08/2022	16/08/2022		16/08/2022	16/08/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.13	0.12	8	115	123
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.13	0.14	7	108	123
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	1.2	1.3	8	100	126
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.04	0.04	0	113	125
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.77	0.81	5	103	100
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	82	96
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	112
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	0.03	0.03	0	120	125
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.17	0.17	0	99	117
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	118	131
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.03	0.04	29	110	124
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	111
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	108
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	100
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	113
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	95	104
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	95	100
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	109	115
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	117	117
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	123	131
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	122	131
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	109	116
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	113	115
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	110	115
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	123	128
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	115	120
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	121	130
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	127	131
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	94	1	96	95	1	99	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	105	1	108	110	2	102	108

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	303175-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	96	1	92	95	3	96	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	104	1	100	97	3	102	97
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	98	1	95	96	1	96	90
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	108	1	103	102	1	108	94
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	95	1	94	91	3	96	87
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	102	1	101	101	0	102	94
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	103	1	99	100	1	102	89
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	97	91	6	101	88
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	112	1	107	105	2	108	92
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	112	1	110	108	2	107	102
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	113	1	113	110	3	123	111
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	109	1	107	98	9	110	100
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	68	1	81	69	16	88	84
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	117	1	105	110	5	110	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	135	1	116	119	3	123	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	147	1	140	137	2	151	127
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	102	1	101	101	0	102	93
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	104	1	106	103	3	107	102
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	103	1	102	102	0	105	100
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	99	1	98	94	4	102	101

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	303175-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	93	1	96	97	1	99	94
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	121	1	110	107	3	122	97
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	122	1	109	105	4	122	96

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.